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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1887.

No. ~~204~~ 35

THE CRESCENT BREWING COMPANY, APPELLANT.

vs.

MATTHEW GOTTFRIED.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF INDIANA.

FILED SEPTEMBER 19, 1885.

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1887.

No. 294.

THE CRESCENT BREWING COMPANY, APPELLANT.

vs.

MATTHEW GOTTFRIED.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF INDIANA.

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1 Pleas of the circuit court of the United States within and for the district of Indiana, begun and holden at the United States court-house, in the city of Indianapolis, on the first Tuesday of November, in the year of our Lord one thousand eight hundred and eighty-four, before the Honorable William A. Woods, judge of the district court of the United States for the district of Indiana and *ex officio* judge of said circuit court.

MATTHEW GOTTFRIED
vs.
THE CRESCENT BREWING COMPANY. } 7152. Chancery.

Be it remember- that heretofore, to wit, at the November term, 1880, of said court, on the 21st day of March, 1881, before the Honorable Walter Q. Gresham, one of the judges of said court, the following proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Banning and Banning, and files his bill herein in the words following, to wit:

2 *Bill.*

To the honorable the judges of the circuit court of the United States for the district of Indiana:

Matthew Gottfried, of the city of Chicago, in the State of Illinois, and a citizen of the State of Illinois, brings this his bill of complaint against the Crescent Brewing Company, a corporation duly organized and existing under and by virtue of the laws of the State of Indiana, of the city of Aurora, in the State of Indiana, and a citizen of the State of Indiana, defendants; and thereupon your orator complains and says:

I. That prior to the third day of May, 1864, your orator and one John F. T. Holbeck were the original and first inventors and discoverers of a new and useful improvement in pitching barrels not known or used by others before their invention thereof, and which had not, at the time of their application for a patent therefor, been in public use or on sale for more than two years, as your orator verily believes; and that, upon due application, letters patent of the United States No. 42580, in due form, were issued to your orator and the said Holbeck, dated the said third day of May, 1864, granting to them, their heirs, administrators, or assigns, for the term of seventeen years, the full and exclusive right of making, using, and vending to others to be used the said invention—as by reference to the said letters patent here in court to be produced, and a copy of which is hereto attached and made a part of this bill, will more fully appear.

II. That by virtue of the premises and written assignments given for good and valuable considerations, and duly executed and recorded, your orator became and now is the sole and exclusive owner of the entire right, title, and interest in and to said letters patent and in and to all claims for damages occasioned by infringe-

ments thereof, and for gains, profits, savings, and advantages made or received by others by reason of such infringements, and is by law entitled to sue for and receive said claims to his own use.

III. That on the fourth day of October, 1877, your orator and the said Holbeck filed their bills of complaint against Frank Bartholomae and Bernard Roesing, Peter Fortune and John Fortune, and Peter Schoenhofen, respectively, in the circuit court of the United States for the northern district of Illinois, setting forth the said letters patent and the infringement thereof by said defendants, and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills, denying, among other things, the validity of said letters patent, and setting up that your orator and the said Holbeck were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and publicly used by others in this country long prior to the date of their invention; that, issues being joined and proofs taken at length and for a long time, all of said causes were brought to a hearing on their merits on the eighth day of May, 1878, before his honor Judge Henry W.
3 Blodgett, and were argued before him by the counsel for your orator and said parties, respectively, and were afterwards held under advisement by said judge until the 24th day of June, 1878, when judgment was duly pronounced; and that said court then decided, among other things, that the said letters patents were good and valid in law, and that your orator and the said Holbeck were the original and first inventors and discoverers of said invention, patented as aforesaid, and, by decrees entered of record in two of said causes (a special arrangement being made by counsel as to the other perpetually enjoined the said defendants, Batholomae and Roesing and Fortune Bros., from using the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed; that on the 6th day of January, 1879, on the application of the defendants, said decrees were set aside and all of said defendants allowed to make further defense; and that amended answers were afterwards filed setting up additional defenses, and new proofs taken at length and for a long time, in each of said causes.

That on the 3d day of June, 1878, your orator and the said Holbeck filed their bill of complaint against Valentine Blatz, and on the 9th day of August, 1878, their bills of complaint against the Philip Best Brewing Company, the Joseph Schlitz Brewing Company, and Jacob Obermann and Max Fueger, respectively, in the circuit court of the United States for the eastern district of Wisconsin, setting forth the said letters patent and the infringement thereof by the said defendants, and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills, denying, among other things, the validity of said letter patent, and setting up that your orator and the said Holbeck were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and used by others in this country

long prior to the date of their invention; that, issues being joined and proofs taken at length and for a long time, all of said seven causes above named were brought to a hearing on their merits on the 12th day of June, 1879, and were heard and argued together before his honor Judge Charles E. Dyer; that the said hearing and arguments were very full and exhaustive and lasted five days; that said causes were afterwards held under advisement by said judge until the first day of December, 1879, when judgment was duly pronounced, and that said court, in a very long and full opinion, then decided, among other things, that said letters patent were good and valid in law, and that your orator and the said Holbeck were the original and first inventors and discoverers of the said invention, patented as aforesaid, and, by decrees entered of record, perpetually enjoined all of said defendants from using the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed; all which will more fully appear by a reference to the opinions of said judges and the record of the proceedings in said suits, the first of which opinion is published in vol. 13 of the Official Gazette of the Patent Office, page 1128, and the second in vol. 17 of said Official Gazette, page 675.

That after said decisions the said The Philip Best Brewing Company, The Joseph Shlitz Brewing Company, Valentine Blatz, and Jacob Obermann and Max Fueger acquiescing therein and in the validity of said patent, settled with your orator for their past
4 infringement, and purchased licenses for the future use of said patented invention, and paid your orator therefor a large sum of money, amounting to many thousands of dollars; and that thereupon final decrees were entered in the suits against them, respectively, from which no appeals have ever been taken.

IV. That since the granting of said letters patent and at divers times and occasions between that time and the filing of this your orator's bill the said Crescent Brewing Company, well knowing the premises, and in infringement of said letters patent, and in violation of the exclusive rights of your orator thereunder, and without the license of your orator or the said Holbeck or any one ever interested in said patent, at Aurora, Indiana, to wit, at the district aforesaid, have used and still continue to use the said invention patented as aforesaid, whereby great injury has resulted to your orator and great gains and profits have accrued to the said defendants, the full amount of which is unknown to your orator, but which in equity belong to him and should be accounted for by the said defendants and paid over to your orator as the avails of his exclusive rights aforesaid and the profits and gains which he would have derived therefrom but for the unlawful acts of the said defendants.

V. That your orator has no adequate remedy in the premises save in a court of equity, where matters of this nature are properly cognizable.

Wherefore your orator prays—

1. That the defendants may answer the premises and may fully disclose the number of pitching machines they are using and have

used, how long they have used such machines, the names thereof, by whom the same were manufactured, and by whom and when patented, and whether in such machines the air is heated by its being forced through or in contact with the fire on its passage from the blower to the cask or barrel to be pitched; and, if not, how it is heated, stating fully the construction and operation of the machine.

2. That the defendant, its agents, attorneys, servants, and workmen, and each and every of them may be restrained and enjoined, as well preliminary and provisionally as perpetually, from such infringement of said letters patent.

3. That the defendant may render to your orator a true account of the number of casks, barrels, or kegs which it has pitched or heated for pitching by the use of a blast of heated air forced into such casks, barrels, or kegs and of the gains, profits, and benefits derived therefrom, and may be decreed to pay over to your orator any and all of the gains, profits, savings, and advantages, to be duly determined, made, derived, or received by the said defendant from the use of said patented invention and in violation of your orator's rights as aforesaid and all damages resulting to your orator from the use by the said defendant of the said patented invention, together with such increase over the actual damages suffered as is warranted by law and may seem to your honors just and proper.

5 4. And that your orator may have such other and further relief in the premises as may be agreeable to equity and good conscience, and as to your honors shall seem *to* meet.

To this end may it please your honors to grant unto your orator—

1. The writ of subpœna issued out of and under the seal of this honorable court, directed to the said defendants, The Crescent Brewing Company, commanding it by a certain day and under a certain penalty to be and appear in this honorable court, and then and there to answer the premises and stand to and abide by such order and decree as may be made against them.

2. The writ of injunction, as well preliminary and provisional as perpetual, issuing out of and under the seal of this honorable court, enjoining and restraining the said defendants, The Crescent Brewing Company, its agents, attorneys, servants, and workmen, and each and every of them, as is heretofore in that behalf prayed.

And your orator will ever pray, etc.

MATTHEW GOTTFRIED.

BANNING & BANNING,
Solicitors for Complainant.
THOMAS A. BANNING,
Of Counsel.

Copy of Patent Mentioned in Foregoing Bill.

No. 42580.

The United States of America to all whom these letters patent shall come:

Whereas J. F. T. Holbeck and Matthew Gottfried, of Chicago, Illinois, have alleged that they have invented a new and useful im-

proved mode of pitching barrels, which, they state, has not been known or used before their application; have made oath that they are citizens of the United States; that they do verily believe that they are the original and first inventors or discoverers of the said invention, and that the same hath not, to the best of their knowledge and belief, been previously known or used; have paid into the Treasury of the United States the sum of thirty-five dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said invention, and praying that a patent may be granted for that purpose:

These are, therefore, to grant according to law to the said Holbeck and Gottfried, their heirs, administrators, or assigns, for the term of seventeen years from the third day of May, one thousand eight hundred and sixty-four, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention, a description whereof is given in the words of said Holbeck and Gottfried in the schedule hereunto annexed, and is made a part of these presents.

6 In testimony whereof I have caused these letters to be made patent and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this third day of May, in the year of our Lord one thousand eight hundred and sixty-four, and of the Independence of the United States of America the eighty-eighth.

[L. S.]

J. P. USHER,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

D. P. HOLLOWAY,
Commissioner of Patents.

The Schedule Referred to in These Letters and Making Part of the Same.

To whom it may concern:

Be it known that we, J. F. Th. Holbeck and Matthew Gottfried, both of Chicago, county of Cook, and State of Illinois, have invented a new and useful improvement in pitching barrels, etc.; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section taken in a vertical plane through the center of the apparatus which we employ in the operation of pitching barrels, etc. Figure 2 is a horizontal section taken in the course indicated by red line *x x* in figure 1. Figures 3 and 4 are views of the tabular-closing guard which is applied to the barrels or casks in the operation of heating them. Similar letters of reference indicate corresponding parts in the several figures.

Before filling casks with spirituous or volatile liquids it is necessary to render the casks impervious to air, the most common and probably the cheapest method of doing which has been to flow melted pitch or other substance into the pores and joints of the

casks while they are in a heated state, but the difficulties hitherto attending this process arise in consequence of a want of some economical means of heating the casks without burning or seriously charring their inside surfaces.

My invention has for its object the preparation of casks for receiving pitch or other melted substance suited to the object in view by subjecting said casks to blasts of highly heated air by means of an apparatus which will be hereinafter described. To enable others skilled in the art to understand our invention we will describe its construction and operation.

In the accompanying drawings we have represented one mode of carrying our invention into effect, which consists of a furnace constructed of masonry as represented by A, figures 1 and 2. This furnace is of a rectangular form and has a vertical central opening, A′, through it. Near the base of the furnace is a grate, *a*, beneath which is the ash pit *b*, and above which is a fire chamber, *c*, which is covered by a lid, *c′*, as shown in figure 1.

An opening, *d*, is made through the side of furnace A, which forms an external communication with an internal chamber, A′, either below the grate or above this grate, as shown in Figure 1. This opening, *d*, communicates with a fan case, B, arranged outside of the furnace and furnished with a series of rotary wings or fans, *e e*, which may be rotated by any convenient motive power.

7 The fans *e e* create a blast of air through the furnace chamber A′; this air, rushing through the opening *d* and through the fire which is built upon the grate *a*, is allowed to escape through the passage *d′* near the top of the furnace.

Between this passage *d′* and the cask which it is desired to heat I form a communication by means of a detachable pipe, E, which connects with a short pipe, E′, that is secured around the passage *d′*, as shown in figures 1 and 2.

The removable pipe E may be made conical as represented, so that the opening through the head of the cask D need not be very large, and this pipe is provided with a bow handle, *g*, by means of which the pipe can be removed or adjusted in place without liability of burning the hands. The contracted end of pipe E enters a short tube, *h*, which passes through and is suitably affixed to a covering plate, *i*, that is used to close or partially close the opening *j* which is made through the head of the cask. This plate *i* should be somewhat larger than the opening through the head of the cask, and this opening should be of such form as to admit plate *i*, and to allow of this plate being adjusted, as represented in figure 1. When this plate *i* is adjusted on the inner side of the cask head, opposite the openings there through, it may be confined in place by means of a key, *k*, which is passed between a flange formed on the projecting outer portion of the short pipe *h* and the head of the cask, as represented in figures 1 and 2.

When a cask which it is desired to render impervious to air is adjusted in proper position, and a communication formed between it and the furnace A, as above described, a fire is made upon the grate *a*, and by means of the blast fan applied to the furnace the heated

products of combustion are forced into the cask and allowed to escape therefrom through an opening at the bottom of covering plate *i*, as indicated by the arrows in figure 1.

When the cask thus subjected has become properly heated so that the resin substance within it will readily flow into the pores and cracks or joints in the wood, the parts *i* and E are removed, the opening through the head of the cask properly closed, and the cask rolled about until the melted resin has permeated every pore and interstice in its inside surface.

(Here follows diagram marked p. 8.)

9 Having thus described our invention, what we claim as new and desire to secure by letters patent is—

1st. The application of heated air under blast to the interior of casks by means substantially as described, and for the purposes set forth.

2nd. The use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described.

3rd. The tube-holding plate *i*, in combination with the removable pipe E and blast furnace A, substantially as and for the purposes described.

J. F. TH. HOLBECK.
MATH. GOTTFRIED.

Witnesses;
CHAS. H. BARMM.
M. FLEMING.

And at the same time the defendant, by Parkinson & Parkinson, enters appearance herein.

And the parties, by their respective solicitors, file stipulation herein in the words following, to wit:

It is hereby agreed between the attorneys for complainant and defendant, respectively, in the above-entitled cause, as follows:

First. That within ten days after notice to said attorneys for defendants that complainant has commenced in the same court a suit on the same patent against the Crescent Brewing Company of Aurora, Indiana, appearance shall be entered and answer filed in behalf of said company without service.

Second. That complainant may use the deposition of James R. Vail, already taken in cause No. 6454, pending in said court between this complainant and Samuel D. Langtree *et al.*, in this cause,
10 as well for the *prima facie* case as on account, if any account shall hereafter be ordered; the said deposition to have the same effect and with the same right of objection to relevancy and competency as if said deposition had been duly taken after the issues had been made up in said cause.

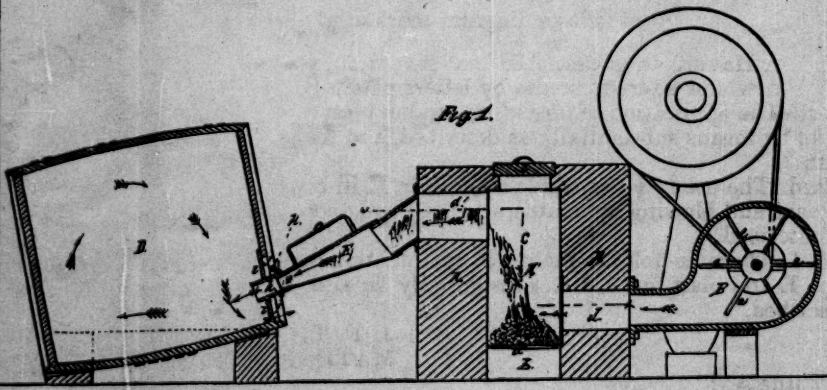
Third. Defendant shall close its proofs within seventy days after the complainant's *prima facie* case is closed, and complainant shall have twenty days in which to take rebutting evidence after defendant has closed its evidence.

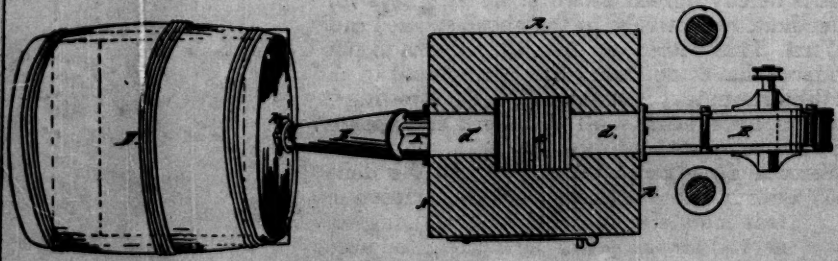
No. 294.
Crescent Brewing Co.
Gottfried
p. 8.

Holbeck & Gottfried,

Mode of Pitching Barrels.

No. 42,580. Patented May 3. 1864.





Witnesses.
R. T. Campbell.
O. Schofield.

Inventor.
J. F. H. Holbeck
by his atty.
Mann, Fenwick & Lawrence

IV. It denies that it has at any time violated any right of the complainants; denies that it has used or is using any invention embraced in said patent or any invention patented as alleged in said bill of complaint; denies that any injury has resulted to the complainants or any gain or profit accrued to this defendant which belongs to the complainants or which they have been prevented from deriving by any wrongful act of this defendant.

V. It denies that the alleged improvement in pitching barrels, described and claimed in said patent, involved patentable invention.

VI. It denies that said Gottfried and Holbeck were joint inventors of the same or any part thereof.

VII. It says, on information and belief, that said Gottfried and Holbeck were not the original or first inventors of the alleged improvement in pitching barrels, for which said letters patent are or purport to be granted, or of any material or substantial part thereof; that the same had been shown and described in letters patent and printed publications and works, and had been in public use and on sale in this country prior to their supposed invention and
12 discovery thereof; that the same has been abandoned to the public; that for many years since the issue of said patent to the complainants machines similar in construction and in mode of operation to those now and heretofore used by these defendants, and by the use of which it is charged with infringement in said bill of complaint, have been commonly manufactured, used, and sold throughout this country by many different persons with the full knowledge of the complainants and without their asserting or pretending to have any exclusive right thereto, though having the same title then as now under said letters patent; that this defendant and the public generally have thereby been led to suppose and have, up to about the time the bill of complainants herein was filed, supposed that they had the right to make, use, and sell said machines, and that these complainants fully recognized and accorded said right and made no claims to any exclusive right therein; that said complainants have thereby become estopped from asserting any exclusive right in or to any of said machines or the processes for which they are and have been used, and all title thereto would thus be abandoned to the public if any such title had ever been vested in them by said letters patent.

VIII. That said alleged improvements were, prior to the alleged invention thereof by complainants, described and shown in the following letters patent and printed publications, to wit:

English letters patent, No. 12918, to Cochrane and Slate, granted and dated January 3d, 1850.

English letters patent, No. 9924, to Robert Davison and William Symington, granted and dated November 2d, 1843.

English letters patent, No. 6901, to Charles Pierre Deveaux, granted and dated October 8th, 1835.

English letters patent, No. 5701, to James Beaumont Nelson, granted and dated September 11th, 1828.

English letters patent, No. 11067, to George Hinton Bovill, granted and dated January 31st, 1846.

Fourth. That both sides shall unite in asking Judge Gresham or Judge Drummond to hear the said cause in twenty days after complainant has closed his evidence in rebuttal.

Dated March 17, 1881.

BANNING & BANNING,
Sol'rs for Compl'nt.
PARKINSON & PARKINSON,
Sol'rs for Def't.

And afterwards, to wit, at the November term, 1880, of said court, on the 29th day of March, 1881, before the Honorable Walter Q. Gresham, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the defendant, by Mess. Parkinson & Parkinson, its solicitors, and files its answer herein in the words following, to wit:

11 *Answer.*

The answer of The Crescent Brewing Company, defendant, to the bill of complaint herein.

This defendant, reserving to itself all right of exception and objection to said bill of complaint, for answer thereto says as follows:

I. It denies that the said Gottfried and Holbeck were the original or first inventors of any improvement in pitching barrels, as set forth in said bill of complaint; denies that the alleged improvement had not been in public use and on sale for more than two years prior to the application for a patent therefor, and denies that the alleged improvement or any exclusive right therein was secured to them by or under the patent set forth in said bill, or by any assignment of or under said letters patent.

II. It is informed and believes and therefore alleges that these complainants have, since the issue of said patent, divested themselves, by lawful assignments, of all title thereunder, but is not informed whether the same has been reassigned to them or whether they are now vested with said title, and therefore denies the same; and further denies that they are entitled to any damages occasioned by infringement of said patent, or any gains, profits, savings, or advantages made or received by reason thereof, or are entitled to sue for or receive the same.

III. It denies that said patent is good or valid; denies that the public generally acquiesced in the validity thereof; denies that any money, profit, or advantage has been lawfully realized by licenses, settlements, recoveries, or otherwise under said patent, and alleges that all money and profit which has been obtained thereby has been wrongfully extorted by threats of expensive and vexatious litigation and by misrepresentations as to the validity of said patent.

As to the several suits against other parties, recited in said bill of complaint, it has no specific information, and leaves the complainants to make such proof thereof as they may be able, denying, however, that it is affected thereby, and denying that the defences available against said patent were fully exhibited or passed upon in either of said suits.

IV. It denies that it has at any time violated any right of the complainants; denies that it has used or is using any invention embraced in said patent or any invention patented as alleged in said bill of complaint; denies that any injury has resulted to the complainants or any gain or profit accrued to this defendant which belongs to the complainants or which they have been prevented from deriving by any wrongful act of this defendant.

V. It denies that the alleged improvement in pitching barrels, described and claimed in said patent, involved patentable invention.

VI. It denies that said Gottfried and Holbeck were joint inventors of the same or any part thereof.

VII. It says, on information and belief, that said Gottfried and Holbeck were not the original or first inventors of the alleged improvement in pitching barrels, for which said letters patent are or purport to be granted, or of any material or substantial part thereof; that the same had been shown and described in letters patent and printed publications and works, and had been in public use and on sale in this country prior to their supposed invention and
12 discovery thereof; that the same has been abandoned to the public; that for many years since the issue of said patent to the complainants machines similar in construction and in mode of operation to those now and heretofore used by these defendants, and by the use of which it is charged with infringement in said bill of complaint, have been commonly manufactured, used, and sold throughout this country by many different persons with the full knowledge of the complainants and without their asserting or pretending to have any exclusive right thereto, though having the same title then as now under said letters patent; that this defendant and the public generally have thereby been led to suppose and have, up to about the time the bill of complainants herein was filed, supposed that they had the right to make, use, and sell said machines, and that these complainants fully recognized and accorded said right and made no claims to any exclusive right therein; that said complainants have thereby become estopped from asserting any exclusive right in or to any of said machines or the processes for which they are and have been used, and all title thereto would thus be abandoned to the public if any such title had ever been vested in them by said letters patent.

VIII. That said alleged improvements were, prior to the alleged invention thereof by complainants, described and shown in the following letters patent and printed publications, to wit:

English letters patent, No. 12918, to Cochrane and Slate, granted and dated January 3d, 1850.

English letters patent, No. 9924, to Robert Davison and William Symington, granted and dated November 2d, 1843.

English letters patent, No. 6901, to Charles Pierre Deveaux, granted and dated October 8th, 1835.

English letters patent, No. 5701, to James Beaumont Nelson, granted and dated September 11th, 1828.

English letters patent, No. 11067, to George Hinton Bovill, granted and dated January 31st, 1846.

English letters patent, No. 4253, to Sir Thomas Coleman and Alexander Galloway, granted and dated May 4th, 1818.

English letters patent, No. 83, of 1854, to Bellford, granted and dated January 12th, 1854; sealed May 26th, 1854.

English letters patent, No. 435, of 1859, to John J. Russel, granted and dated February 16th, 1859.

English letters patent, No. 183, of 1860, to Isaac L. Bell, granted and dated January 24th, 1860.

English letters patent, No. 71, of 1857, to John J. Russel, granted and dated March 28th, 1857.

Tomlinson's Cyclopedia of Useful Arts, published by George Virtue and Company, London and New York, 1854, volume 2, page 665, figure 2015.

Handbuch fur Bierbrauer, von P. Muller, Druch und Verlag, von Friedrich Vieweg und Sohn, Braunschweig, 1854 (received in the library of the United States Patent Office at Washington, D. C., March 12th, 1855), page 116 to foot of page 118.

IX. That said alleged improvements were, prior to the
13 alleged invention thereof by the complainants, known to and publicly made, used, and sold in the United States by the following persons, to wit:

Known and publicly used at the Eureka Iron Company's works, in Wyandotte, Michigan, and at the Richmond Iron Furnace, Berkshire county, Massachusetts, by the following persons, among others, to wit:

Warren Brinton, now residing at Bay View, Wisconsin; J. J. Hagerman and S. D. Arnold, both now residing at Milwaukee, Wisconsin; George Coffin and Walter Lovelace, both now residing at Richmond aforesaid, and Charles Lovelace, now residing at Depere, Wisconsin.

Known and publicly used at the Rockland brewery and elsewhere in New City, Rockland county, New York, and in Charleston, in said county and State, by Joseph Beck, who now resides in the city of New York, in said State, and by Albrecht Becker, who now resides in the city of Brooklyn, in said State.

Known and publicly made, used, and sold in the city of St. Louis, Missouri, by Conrad Seibel, who now resides and may be found at No. 810 South Second St., in said city of St. Louis.

Known and publicly used in said St. Louis by Christian Stahlin, Julius Winklemeyer, Julius Winklemeyer & Co., Joseph Schneider, John G. Zoller, John G. Zoller & Co., the Star brewery, William J. Lem, Schuer's brewery, and many others, which said persons and companies now reside in said St. Louis.

X. It says that said patent does not describe or show a useful or successful operative machine and that said machine has never been made, used, or sold by the complainants or others as there shown, and that the machines and all the machines that have been made, sold, or used by complainants and others purporting to be made under said patent and marked thereunder and now sought to be covered thereby were first introduced to the market by other parties

and are only valuable, useful, and salable by reason of features not shown or described in said patent.

All of which things this defendant is ready to maintain and prove as this honorable court shall direct, and it prays to be hence dismissed with its costs in this behalf maintained.

THE CRESCENT BREWING COMPANY,
By JAS. W. GAFF,
President Crescent Brewing Company.

PARKINSON & PARKINSON,
Sol'rs & Counsel for Def'ts.

And afterwards, to wit, in recess of said court, on the 17th day of June, 1881, the following further proceedings in the above-entitled cause were had, to wit:

Come the parties and file their stipulation herein in the
14 words following, to wit:

It is hereby agreed by counsel that tracings of the sketches introduced by witnesses in testimony taken before Dan'l Kelly, notary public and acting special examiner, in above-entitled causes, may be made and certified in connection with a duplicate of the testimony and filed therewith in either of above cases, with like effect as the original—the original being filed in the other case.

Dated Chicago, May 31, 1881.

BANNING & BANNING,
Solicitors for Complainants.
PARKINSON & PARKINSON,
For Def'ts.

And afterwards, to wit, at the May term of said court, on the 17th day of October, 1881, before the Honorable Thomas Drummond and the Honorable Walter Q. Gresham, judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the complainants, by Mess. Banning & Banning, their solicitors, and file their replication herein, in the words following, to wit:

The Replication of Matthew Gottfried, Complainant, to the Answer of The Crescent Brewing Company, Defendant.

This repliant, saving and reserving unto himself, now and at all time hereafter, all and all manner of benefit and advantage of exception which may be had or taken to the manifold insufficiencies of the said answer, for replication thereunto, says that he will aver, maintain, and prove his said bill of complaint to be true, certain, and sufficient in law to be answered unto, and that the said answer of the defendants is uncertain, untrue, and insufficient to be replied
unto by this repliant; without this, that any other matter
15 or thing whatsoever in said answer contained material or effectual in the law to be replied unto, confessed or avoided, traversed or denied, is true; all which matters and things this re-

pliant is and will be ready to aver, maintain, and prove as this honorable court shall direct, and humbly prays as in and by his said bill he has already prayed.

BANNING & BANNING,
Solicitors for Complainants.

And afterwards, to wit, at the May term of said court, on the 23d day of September, 1882, before the Honorable Walter Q. Gresham, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause came on to be heard at this term and was argued by counsel, and thereupon, upon consideration thereof, it was ordered, adjudged, and decreed as follows, viz: That said complainant and one John F. Holbeck, were the original and first inventors and discoveries of the invention described and claimed in letters patent of the United States, No. 42580, issued to them on the third of May, A. D. 1864, for an improved mode of pitching barrels; that said letters patent are in all respects good and valid in law, and that the complainant is the exclusive owner thereof and entitled to sue for and receive all damages and profits arising out of and accruing from infringements thereof, as alleged in the bill of complaint herein.

That the Crescent Brewing Company, the defendant herein,
16 has infringed upon the said letters patent and upon the exclusive rights of the complainant under the same by using the invention therein described and claimed, as alleged in said bill.

That the complainant- recover of said defendant the profits, gains, and advantages which the defendant has received or made or which have arisen or accrued to it from its infringement of said letters patent by the use of said patented invention as aforesaid, and also the damages which the complainants have sustained thereby.

That this cause be referred to William P. Fishback, Esq., one of the masters of this court, to take proofs and to ascertain and take and state and report to the court an account of the number of kegs, barrels, casks, and other vessels which the defendant has pitched or heated for pitching by the use of said patented invention, and of the gains, profits, and advantages which the defendant has received, or which have arisen or accrued to it from said infringement of said letters patent and use of said patented invention as aforesaid, and also of the damages which the complainant has sustained thereby; that on such accounting the complainant has the right to cause an examination of the officers of the defendant *ore tenus*
17 or otherwise, and also the production of the books, vouchers, and documents of the defendant, and that the defendant attend for such purpose before said master from time to time as said master shall direct.

And the defendants, by their solicitors, now file their motion and reasons for a rehearing herein in the words following, to wit:

Motion of the Defendant, The Crescent Brewing Company, for a Rehearing.

Now comes the defendant herein and moves the court for a rehearing and reversal of its order for a final decree last made herein for the reason—

First. That the court erred in ordering a final decree upon *ex parte* affidavits.

Second. That the court erred in reversing its order heretofore made for a decree dismissing the bill.

Third. That the court erred in finding that there was any patentable novelty in the Gottfried machine.

Fourth. That the court erred in overlooking the machine known in evidence as the "Pewterer's blast," the "De Vaux machine," and other anterior machines, in misconstruing the Cochran and Slate patent, and in finding that the machine shown and claimed in complainant's patent possessed any patentable novelty as compared with these earlier machines.

18 Fifth. That the court erred in that it did not find that the first claim of complainant's patent, being for the process, was invalid, the court having found that the process was not novel.

Sixth. That the court erred in that it did not find that there was no infringement of either the second or third claims.

Seventh. That the court erred in ordering a decree for injunction and account upon a patent long since expired.

Eighth. That the court erred in that it did not find that the patent having expired before the submission of the cause it had no jurisdiction as a court of equity to award either an injunction or account or other relief.

Ninth. That the court erred in that it did not find that the patentee having unreasonably neglected and delayed to disclaim the process claim of his patent was not entitled to any relief whatsoever in this case.

Tenth. That the court erred in that it did not find that the complainant had no sufficient title under the patent sued upon to maintain this suit.

PARKINSON & PARKINSON,
For Defendant.

Which motion is overruled.

19 And afterwards, to wit, in recess of said court, on the 28th day of September, 1882, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the defendant in the above-entitled cause, by Mess. Parkinson & Parkinson, its solicitors, and files its motion for rehearing in above cause in the words following, to wit:

Now comes the defendant herein and moves the court to set aside the decree heretofore entered, for the reason—

First. That the same was entered without notice to defendant and without opportunity to object to the form and substance thereof.

Second. That the same finds infringement of complainants' patent generally, without specifying any particular claims thereof, whereas there was no evidence which upon the broadest construction of the patent tended to prove the infringement of any other than the "process" claim, which said claim was held in the opinion of the court to be incapable of being sustained as a process claim.

Third. For that if the patent is construed as a patent for a machine, as the court now construes it, the record shows that there is no infringement.

Fourth. For that the decree recites the case to have been argued by counsel during the present term, whereas there has been
20 no argument by counsel during the term, unless it be by the counsel directly or indirectly representing complainant, without notice to defendant.

Fifth. For that the court erred in hearing *ex parte* affidavits upon an issue raised by demurrer to the complainant's petition for rehearing, and in entering a final decree upon a finding based upon such *ex parte* affidavits, and in overlooking other defences in the case than those to which said *ex parte* affidavits particularly related.

Sixth. For that the court entered said decree in disregard of a motion already filed in behalf of defendant for rehearing upon points alleged to have been overlooked by the court in its opinion and refused to hear defendant upon said motion.

Seventh. For the several reasons specifically set forth in the motion for rehearing heretofore filed by the defendant herein.

PARKINSON & PARKINSON,
For Defendant.

21 And afterwards, to wit, at the May term of said court, on the 7th day of October, 1882, before the Honorable Walter Q. Gresham, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause having been heretofore argued by the counsel of the respective parties and an opinion delivered by the court finding the equities in favor of the defendant, and a petition for rehearing having been filed by the plaintiff and demurred to by the defendant and argued by the counsel of the respective parties, and another opinion delivered by the court finding the equities this time in favor of the plaintiff, and a petition for a rehearing having been filed by the defendant and overruled by the court and a decree entered in favor of the plaintiff, and another motion for a rehearing and to set aside said decree having been filed by the defendant and argued by its counsel, the court declining to hear arguments for the plaintiff, and the court being sufficiently advised thereon, doth now order, adjudge, and decree that said motion for a rehearing and to set aside said decree, filed by the defendant, be, and the same is hereby, overruled, and that said decree stand affirmed; and,
22 further, that said decree be, and is hereby, amended so as to adjudge and decree that the plaintiff's patent, No. 42580, is good and valid in law as to its first and second claims, and that the defendant has only infringed said first and second claims, the third claim of said patent not being now in controversy.

Opinion of the Court.

GRESHAM, *J.*:

I have considered the proofs and arguments on a motion for a rehearing and am convinced that in holding the complainant's patent invalid undue importance was attached to the German publications, the Cochran and Slate patent, and the Siebel device as anticipating defenses. See 9 Fed. Rep., No. 13, p. 762.

The German publications are vague and uncertain and describe no machine capable of practical and successful use by brewers for pitching casks and kegs.

It is sufficient to say of the Cochran and Slate device, without again stopping to describe it, that without material changes in its construction or arrangement it cannot be made to produce the same useful results as are produced by the complainants' device.

I am still of opinion, however, that the complainants' patent cannot be sustained on the theory that they were the first to use a hot blast, from which the oxygen had been removed, in heating
23 the interior of casks for the purpose of pitching them.

Siebel, we have already seen, heated the cask with his machine for the same purpose by the application of a hot blast, which he deprived of its combustible properties by forcing it through and in actual contact with the fire in the furnace.

This furnace he inserted into the cask through the man-hole, and there operated it. Of course this machine could not be used in pitching kegs or other small receptacles into which it could not be inserted.

In this and other respects the Siebel device was crude and imperfect compared with the complainants' machine, which was located and operated outside the receptacle to be heated and pitched, and which was adapted to pitching barrels and small kegs as well as casks. The complainants' device was the first, and the proof shows that it is to-day the only, means by which brewers are enabled to pitch barrels and kegs without removing the heads. This device also forces into the receptacle to be heated a much hotter blast than Siebel can apply with his machine, and with it brewers are enabled to do their pitching more expeditiously and economically.

24 The method or means which the complainants employed in forcing into the cask a hot blast consisting of the same elements as the Siebel blast produced, if not a new result, certainly a much better one than could be produced by any other method or means then known to persons engaged in the business of brewing. Compared with other means for heating the interior of casks and receptacles, the complainants produced a new mechanism or thing which enabled them to pitch casks and kegs more rapidly and economically than they had ever been pitched before. I think the complainants were entitled to a patent, not for the improved or better result or effect, but for the mechanism or means by which the result was accomplished.

It is the policy of the law to encourage useful improvements, and I am unwilling to hold that the complainants' device, consisting of

old elements combined and operated, as stated in the specification, practically superseding, as it does, all other known means of pitching kegs and other small receptacles and greatly superior, as it confessedly is, to Siebel's machine for pitching large casks, is the mere mechanical equivalent of the latter or of any other device. These are briefly my reasons for withdrawing my former ruling and for
25 now entering a decree in favor of the complainants, with an order for an account of profits.

And afterwards, to wit, at the November term of said court, on the 16th day of November, 1883, before the Honorable William A. Woods, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now William P. Fishback, master in chancery, and files his report and evidence in the above-entitled cause, and said master's report is in the words following, to wit:

Master's Report.

MATTHEW GOTTFRIED
vs.
THE CRESCENT BREWING CO. } No. 7252.

MATTHEW GOTTFRIED
v.
RACHAEL S. GAFF, Executrix, etc., and SAMUEL LANGTREE. } No. 6454.

MATTHEW GOTTFRIED
v.
EUGENE HACH and ANTON SIMON. } No. 6840.

To the honorable the judges of the circuit court of the United States for the district of Indiana:

26 I, William P. Fishback, to whom the causes above entitled were referred, under interlocutory decrees therein, to ascertain, state, and report to the court an account of the gains, profits, and advantages which the defendants have received or which have accrued to them, respectively, from their infringement of the Gottfried-Holbeck patent, No. 42580, mentioned in said decrees and the damages which the complainant has suffered thereby, do respectfully report as follows:

There being a number of cases of like character pending in the United States circuit court for the southern district of Ohio, which have been referred to J. C. Harper, Esq., special master, under similar interlocutory decrees, it was agreed that the cases above-entitled and the cases pending in Ohio should be heard jointly by the undersigned and Mr. Harper. We were attended on the hearing of said cause by Messrs. Banning & Banning, counsel for complainant, and Messrs. Parkinson & Parkinson, counsel for the defendants; have taken in evidence on the part of the complainant, in addition to the stipulations or admission as to the amount of pitching done by defendants in each case, the depositions of the following wit-

nesses and the documents and exhibits therein mentioned and referred to, namely: William J. Seib, Anton Schuerle, Clements Uhlman,
27 Edward Thorman, Emil Wilke, George Stupp, William Rosseter August Olinger, William Koehle, Joseph Maier, Casimer Theinger, Ferdinand Steiner, August Goeffle, Frank Walther, and Matthew Gottfried, recalled; and on the part of defendants the depositions of the following witnesses and the documents and exhibits therein mentioned and referred to, namely: John Hauck, Christian Moerlien, Emil Schmidt, C. W. Boss, Henry Schmidt, Henry Mulhauser, Louis Herancourt, William Gerst, Jacob Frecht, Jr., Gottlieb Schwartz, J. M. F. Windish, John Hauck, Christoph Siebel, Henry Scharf, and John Brenner. I herewith return all said testimony and exhibits to be filed with this report.

The record is substantially the same in all cases pending here and in Ohio.

The result of consultations and correspondence had between the undersigned and Mr. Harper is a difference of opinion, and for that reason I state my views and reasons at greater length than is usual in reports of this kind.

The Facts.

The complainant's patent was issued in May, 1864, and the patentees shortly afterwards attempted to introduce the invention to the brewing public, and to this end they sent out circulars and exhibited machines at one or two brewers' conventions. Their
28 efforts to introduce the invention failed, and they never succeeded in establishing and building up a manufacturing business. After a few years the patent was transferred to the Barrel Pitching Machine Company of Baltimore, but this company proved a failure and after four or five years went out of existence. At the time it was organized a personal arrangement was made between the patentees by which Holbeck became the owner of Gottfried's interest in the patent conditionally, and Gottfried was to receive a royalty of ten dollars a machine. Little, if anything, was ever done under this arrangement, and it was subsequently revoked. The title and patent afterwards—partly in 1875 and partly in 1876—became reinvested in the patentees.

In the meantime brewers and others regarded and treated the patent as invalid and engaged extensively in making and using infringing machines. The patentees commenced a number of suits soon after getting the title back. The first decision reached in any of these suits was by Judge Blodgett in June, 1878 (Gottfried *v.* Bartholomae, 3 Banning & Arden, 308), but this decision was afterwards set aside and a rehearing granted. The next decision, and the first one that was allowed to stand, was by Judge Dyer, of this
29 circuit, December 1, 1879 (Gottfried *v.* Phillip Best Brewing Company, 5 Banning & Arden, 4). Up to the date of this last decision the brewers generally considered the patent as invalid, or, at least, there was such a doubt of its validity that they were unwilling to recognize the patentees' rights, and many brewers, includ-

ing the defendants in this suit, still refuse to recognize its validity, notwithstanding this and other decisions.

In May, 1879, Gottfried bought out Holbeck's interest in the patent for ten thousand dollars and a limited license authorizing Holbeck to manufacture machines and sell them to brewers who had never infringed the patent or who had settled for their infringements.

This license was given as a part of the consideration for Holbeck's interest in the patent, and was a personal arrangement between the patentees limiting Holbeck's operations to one class of brewers and Gottfried's to another class. Gottfried says in his deposition it was granted "as a part of the purchase price" and "because he, Holbeck, was an old acquaintance of mine, and because he was in very poor circumstances at that time."

After Judge Dyer's decision Gottfried made a number of settlements and granted licenses to brewers in different parts of
30 the country. These settlements were made in two ways—some of them at a lump figure determined by the capacity of the brewery and others at a regular, uniform rate of fifteen cents per keg and one dollar per cask holding 30 barrels and one dollar and a half per cask holding over 30 barrels for each pitching.

While there is some conflict in the evidence, I consider that this rate per keg and cask was fair and reasonable and not above the actual value of the invention or the benefits derived from its use in ordinary pitchings, and I am fortified in this by the fact that, in the several master's reports and decrees hereinafter mentioned that is the rate upon which damages have been estimated.

This is a brief statement of the material facts, and the evidence in support of it will be referred to more in detail hereafter.

The complainant, waiving profits, now contends that he is entitled to recover, first, for an established royalty or license fee per keg and cask, and. if not, that he is entitled to recover whatever rate per keg and cask the general evidence shows to have been fair and reasonable. Defendants contend that the complainant is limited by amounts received by him and his co-patentee in their early
31 efforts to introduce their invention, and particularly from the sale of machines and Gottfield's agreement made at the time of the transfer to the Barrel Pitching Company. The main question to be determined, then, is, At what rate is the complainant entitled to recover?

Before proceeding to consider this question it is proper I should state, in view of the evidence, that the invention is a very important and valuable one.

Before this invention was known kegs were pitched as follows: The hoops were knocked off and staves loosened; the heads taken out; the hoops put on and tightened; the pitch and wood heated by fire built inside the keg; the hoops knocked off and staves loosened again; the head put in; the hoops put on again, and staves tightened up again. By using the complainant's invention the pitching is done without this trouble. I am convinced that, notwithstanding the efforts of some of the witnesses to desparage the value of the

invention, the use of complainant's machine saves time, labor and pitch; the vessels are better pitched and, not being injured by the taking out of the heads and displacing the staves, will last much longer than when pitched in the old way. Its value is further demonstrated by the fact that the defendants in this suit, who have tried both methods, have preferred to use the complainant's
32 invention, and they certainly would not persist in it if it did not possess great advantages over the old pitching process, the use of which would subject them to no liability.

Counsel on both sides insist that the complainant has an established royalty or license fee which should be adopted as the basis of the finding in these cases. Were I to adopt the rate insisted on by the defendants the amount of complainant's damages would be little more than nominal.

As to the sale of machines by Holbeck, Mr. Gottfried testifies as follows; reference is made to the pages of his printed deposition. He says:

"My co-patentee, Holbeck, manufactured machines and occasionally succeeded in selling a few. We put the price low, making for ourselves only a profit of about $100.00 per machine. We expected in this way to be able to supply the trade with our invention and to build up a large business in manufacturing machines, but after a time we discovered that the brewers would not respect our rights. A great many of them were using our invention, but to our claims they would make no answers or dispute the validity of our
33 patent. From one pretext or another they kept refusing to pay us anything, although they all admitted the great value of our invention. Finally, as our patent was fast expiring, we saw no other way than to commence suits, which we did against a number of the largest brewers in the West. These suits resulted in decisions in our favor. Since the decisions the brewers for the first time began to respect our rights and many of them have settled with us." (Page 4.)

"We have sold about 20 machines between the time the patent was issued and 1876 and 1877,"—the time the suits were commenced. (Page 11.)

"The first time the brewers commenced to recognize my rights was after Judge Dyer's decision, December 1st, 1879." (Page 12.)

"Our patented invention has been used in about 3,000 breweries without having paid for the right to use it." (Page 12.)

"When we first sold the machines we had $100.00 profit per machine, but after a time, when they commenced making machines in most every *time*, the price was cut down to $80.00 and afterwards to $50.00 and $60.00—the profits, I mean. Then came a number of years when we could not sell any machines at all, on account
34 of the prices being cut down to the manufacturer's price." (Page 14.)

On cross-examination he says that the profits were reduced from one hundred dollars to eighty dollars about 1866 and to sixty dollars "the next year after that;" that this was the profit on "the furnace only;" that "the price was first two hundred dollars, then

came down gradually to one hundred and fifty dollars;" that Holbeck "has been selling very few," because "there has been a great many infringing machines in the market" (pages 33–34); that infringing machines came into use from 1867 to 1870, and that "after that they were made very generally, and up to the expiration of the patent some forty or fifty different manufacturers, and then some brewers also, made their own machines." (Page 43.)

The question is whether these transactions, these sales of a few machines under the circumstances stated, while the patent was considered invalid, establishes any royalty or rate of recovery, and, particularly, whether it now prevents the complainant from recovering at another and higher rate. The amount received by the complainant since Judge Dyer's decision in the settlements he has made under the decrees that he has obtained have been large,
35 aggregating over $100,000.00.

The fact that brewers, prior to Judge Dyer's decision, were unwilling to recognize the validity of the patent placed the patentees at a great disadvantage and rendered it impossible for them to deal upon equal terms with brewers in selling the machines. The effect of this disregard of the patentees' rights was to cut down their profits, and, as Mr. Gottfried says, then came a number of years when they could not sell any machines at all, and they were able to sell only about 20 machines, although it is in evidence that 3,000 brewers adopted and used the invention within the 12 or 13 years after the patent was issued.

In the case of Campbell *vs.* Barclay (5 Bissel, 180), Judge Blodgett said:

"Inventors are frequently compelled by stress of poverty or force of circumstances to dispose of some part of their rights in the thing invented at much lower rates than they and others know them to be worth. The fact that the inventor has sold or given away some portion of a patented right is no justification to another who has wrongfully infringed upon the rights retained."

In "Sickles *v.* Borden" (3 Blatchford, 544), in Judge Nelson's charge to the jury, the following language is used:

36 "He (the patentee) says that his object in selling at such prices was to get the invention into public use, and that, on that account, he made sacrifices of what he deemed its real value so that the public might see the successful working of his improvement. Undoubtedly this circumstance is not peculiar to this patentee. His account is, perhaps, the history of most inventions on their first introduction to public notice. It requires effort, influence, and sacrifice to introduce them into notice so that they may acquire the confidence of the community. The public are distrustful of new inventions, and rightly so. Not one out of one hundred patents issued at the present day is worth, in my judgment, the parchment on which it is written. It is only now and then that a valuable improvement is produced, and it soon becomes the subject of litigation and contest; and even the most meritorious requires time, effort, influence, and the sacrifice of money to bring them into use. It is quite proper that these views should be taken into account upon the question of the patent

fee. If you are satisfied that the improvement was sold for less than its real value, for the reason stated by the patentee, and that sacrifices were made for the sake of introducing it into public
37 use, it is quite proper that these views should be taken into account upon the question of the patent fee. If you are satisfied that the improvement was sold for less than its real value, for the reason stated by the patentee, and that sacrifices were made for the sake of introducing it into public use, these considerations should be taken into account in fixing a patent fee as a measure of damages."

While the patent was considered invalid it is improbable that the purchasers of any machines made by Holbeck gave him any more than the price of the labor and material represented in the machine, with manufacturer's profits, and it is not likely that the inventor's royalty entered into the selling price of the machine. The fact that the sales made by Holbeck were very few and at variable rates for the purpose of introducing the invention is to be considered. He seems to have offered his machine at almost any price, but the brewers, disregarding the patent, preferred to manufacture their own machines, and he was not able to sell to more than one out of every one hundred and fifty that presently adopted the invention, and then came a number of years in which no machines could be sold at all.

38 I am unwilling to adopt what I consider a narrow and illiberal rule, which would limit the patentee of an important invention in the amount of his recovery to rates which he was compelled to accept under such circumstances.

The owner of a valuable patent should be encouraged to introduce and put his invention into public use; and to hold that this patentee should be now punished for his early efforts to introduce his invention would, in my judgment, be very unjust.

Judge Dyer, of this circuit, in an unreported case—"Graham *v.* Geneva Lake Crawford Manufacturing Company"—used this language: "I am inclined to look upon all of these agreements made with Waterman and Waterman & Bloom as rather partaking of the nature of efforts to secure the manufacture of the machine and its introduction into public use than as unqualified licenses fixing a license fee which could be accepted as establishing, within the language of the court in Seymour *v.* McCormick, the average of actual damages sustained by the patentee when his invention should be used without his license."

39 The evidence does not show that the defendants in these suits knew of the sales by Gottfried and Holbeck or that they were in any way injured or misled by them. It appears in the evidence of the Cincinnati brewers who were examined as witnesses that the greater part of the infringement was committed in ignorance of the existence of the patent.

Admitting that under certain circumstances the sale of machines by Holbeck might be considered as fixing the rate of recovery, the complainant is not necessarily bound thereby. While the courts have held that the price that the invention commands between those

who sell and purchase it is the best criterion of value, they have also recognized the propriety of allowing a higher rate or fixing a lower one. In Seymour *v.* McCormick (16th Howard, 490), the court say: "If a patentee claims anything above that amount (his license fee) he is bound to substantiate his claim by clear and distinct evidence;" and in Birdsell *v.* Coolidge (93 U. S., 70), the court say: "It is admitted in several cases that the circumstances may be such that the finding should be larger than the royalty." See upon the same point Phillip *v.* Nock (17 Wallace, 462).

I do not think the arrangement between Gottfried and Holbeck made at the time the Baltimore company was organized, by which Gottfried was to receive ten dollars for each machine, has
40 any application in determining or fixing the rate of recovery; that was a personal agreement between two patentees, themselves old friends and joint inventors, and one which did not affect their rights as against the public. This arrangement was made for the purpose of assisting Holbeck in his efforts to introduce the invention. Besides this nothing was ever done under it, and it was revoked in 1875. It was held in Bussey *v.* Excelsior Manufacturing Company (5 Banning & Arden, 135,) that the rescinded license or contract cannot be allowed a controlling influence in fixing or determining the patentee's right of recovery, nor do I think that the license given back to Holbeck, at the time of the sale to Gottfried of his interest in the patent, was different in its effect. It was made while the patent still was considered invalid, and it was expressly limited to operations with brewers who had never infringed the patent or who had settled for their infringements, nor does it appear how many, if any, machines were sold under it or at what price, or that Gottfried was in any way connected with the sale of them. Gottfried says that he supposed, but did not know and could not tell at what price they were sold after the title came back from the Barrel Pitching Machine Company. (Page 35.)

41 I pass now to the consideration of the complainant's dealings with infringers after Judge Dyer's decision sustaining the patent. These consisted in making lump settlements and in the granting of licenses at so much per keg and cask for all pitching done. As has already been said the lump settlements were based upon the estimates of the capacity of the different breweries, but as I do not consider them in estimating the complainant's damages I shall not refer to them any further.

After Judge Dyer's decision the complainant granted licenses under it at the rate heretofore mentioned. Gottfried names 13 licenses which he gave and says there are others. These licenses were, in the master's opinion, sufficient in number and extent to establish a royalty or license fee under the patent within the meaning of Seymour *v.* McCormick; that the settlements were made after suits were begun is not sufficient, in my opinion, to break their force. I am not inclined to assume that the infringers paid more than they believed they were liable for and would have been obliged to pay at the end of litigation. It is enough to say that no evidence has been introduced showing that these settlements were not fair or that they

resulted from coercion or were the result of collusion, although, while the evidence was being introduced, it was hinted by counsel for
42 the defendants that some of these settlements were collusive. No effort was made to establish that to be the case, and, in the absence of any such testimony, I am unwilling to infer it. The rate being reasonable, in my opinion, I do not consider it important that the licences were granted late in the life of the patent. In fact it comes with a poor grace from these defendants, who have been violating the complainant's rights and forcing him to expensive and protracted litigation, to insist that because they had deprived him of the enjoyment of his rights for 10 or 12 years he was therefore not entitled to enjoy them for the few years that remained of the life of the patent. Never until Judge Dyer's decision in 1879 were the complainants in a condition or a position that enabled them to enforce their rights against those who had been wantonly disregarding them.

It is objected that these licenses involved settlements for past use as well as for future use of the invention.

It has been frequently held that gross settlements are incompetent to prove a royalty or license fee (Black *v.* Munson, 2 Banning & Arden, 626; Mathews *v.* Spangenberg, 14 Fed. Rep., 350), but in the licenses proved in this case the uniform rate has been charged
43 per keg and cask upon sworn reports, and this rate was applied to pitching done before the licenses were granted and afterwards. I do not think that the rule applied to lump settlements applies to the licenses proved in this case. If my conclusion that the complainant has an established royalty or license fee per keg and cask be incorrect it seems to me clear that the complainant is entitled to recover at the rate claimed on another ground. If complainants are not bound, as I think they are not, by the profits received on their machines by the so-called royalty or license fee when the brewing public denied the validity of their invention, and if the licenses involved in the last settlement named, at which the rate of 15 cents per keg and $1.00 and $1.50 per cask is not established by sufficient evidence to make them a uniform royalty, I still think the complainants entitled to recover on another ground—namely, the general evidence offered as to the value of the invention. In Suffolk *v.* Hayden (3d Wallace, 320), the court say: "There being no established patent or license fee in the case, in order to get at a fair measure of damage, or even an approximation to it, general evidence must necessarily be resorted to, and what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention
44 over the old modes or devices that had been used for working out similar results." Upon the question as to the value of the complainant's invention to those who use it there seems to be no doubt. The fact that the old method of pitching kegs has given place to this in most of the breweries of the country is conclusive evidence that in the estimation of brewers it is valuable. As heretofore stated in this report, the hand-pitching process is expensive, and must, in the nature of things, be wasteful as to material used

and destructive to the casks that are subjected to the treatment. A few witnesses, it is true, have attempted to belittle the importance of the invention and the advantages it possesses over the old method of pitching. Fifteen witnesses have been examined by the complainant and fourteen by the defendants on this point. Of those examined by the complainant nine are disinterested, four work in his brewery, one is his foreman, and the other is himself. Of the fourteen examined by the defendants, four are defendants at Cincinnati in these cases, nine are in the employ of defendants, and one—a former partner of defendants—is now apparently disinterested.

There is a square conflict in the evidence of the plaintiff
45 and defendant as to the value of the invention, witnesses on the one hand speaking of its great utility, while the witnesses for the defendant belittle it and claim that it is unimportant and of little or no value in the practical work of pitching, but the fact remains that they are all using the invention and have been using it for years, and that it was the first way ever devised for pitching kegs without taking the heads out, and that it has really superseded the old method of pitching.

In my judgment the evidence of the complainant on this point is entitled to the greater weight, and, irrespective of any supposed license fee or royalty, I regard fifteen cents per keg and one dollar and fifty cents per cask for each pitching a fair and reasonable rate for estimating complainant's damages; but this is no new question in this circuit. Cases arising under the same patent have been heard and determined in both districts in Illinois, and some of the masters who have considered and ruled on the question in controversy there are men of great experience, particularly Mr. Bishop, of Chicago. Mr. Bishop's report in the case referred to him in Chicago and Mr. Prince's report in the case referred to him in Springfield and the reports
46 of the masters in other cases in Iowa and New York have been exhibited to us. Mr. Bishop, in a similar case, ruling in the plaintiff's favor, said in his report: "It is claimed upon the part of the defendants that the only license fee which can be enforced against them is that which was paid by others during the time of the infringement, not the fee which was arbitrarily charged and forcibly collected after the decision of December 1st, 1879, establishing the patent of the complainants; and evidence is adduced showing sales made during that period, which, it is claimed, should be applied in these cases; but during all this time it appears that the patent was regarded by those using it as invalid, and it does not seem fair that the right of the complainant to fix his license fees should be influenced by the state of facts which then existed or by anything done by him before his patent was established, but that he should have the full benefit of the result of that litigation through the uniform settlements which are shown to have been made upon the strength of it." In the Iowa case the master, after reciting the facts, says: "It does not seem just that the complainant's right to fix license fees should be affected by sales made or license granted
47 under such circumstances, and while the brewers generally denied the validity of the patent sued on."

In a case in the southern district of Illinois exceptions were taken to the master's reports, which found in favor of the complainant at the rate I have adopted. Judge Treat sustained complainant's position and confirmed the report after exceptions were filed and entered a decree ratifying and confirming the report. The reports by Mr. Bishop and the other masters were confirmed without opposition, but I have examined the record at Chicago, and the evidence taken before the master there and upon which Mr. Bishop's report was based show that the defendants contested the complainant's right to recover upon much the same grounds as those insisted upon by the defendants here, and Holbeck's and Gottfried's transactions as to the sale of machines were proved in most, if not all, of those cases.

The plaintiff is entitled to recover actual damages. My conclusion is that he is entitled to recover such damages at the rate of fifteen cents per keg, one dollar per cask holding under thirty barrels, and one dollar and fifty cents per cask holding over thirty barrels for each pitching, and this conclusion is based on two facts:

48 First, that he has an established royalty or license fee at these rates, and that such royalty is fair and reasonable and applicable to these cases; and, second, that if he does not have such established royalty or license fee the rate mentioned is reasonable and not above the fair actual value of the invention as appropriated by defendants. I state the amounts on this basis.

In the case of the Crescent Brewing Company the defendants admit having pitched twenty-eight thousand one hundred and thirteen (28,113) kegs before the patent expired, and allowing damages at the rate of fifteen cents per keg the complainant is entitled to recover four thousand two hundred and fifteen dollars and ninety-five cents ($4,215.95), and I so report his damages.

In the case against Rachael S. Gaff, administratrix, &c, and Samuel D. Langtree the defendants admit having pitched thirty-six thousand four hundred and three (36,403) kegs before the patent expired, and allowing damages at the rate of fifteen cents per keg the complainant is entitled to recover in this case five thousand four hundred and sixty dollars and forty-five cents ($5,460.45), and I so report his damages.

49 In the case of Hack and Simon the defendants admit having pitched three thousand kegs (3,000) and two hundred and fifty casks (250) holding under thirty barrels before the patent expired, and allowing damages at the rate of fifteen cents per keg and one dollar per cask the complainant is entitled to recover in this case seven hundred dollars ($700.00), and I so report his damages.

All of which is respectfully submitted.

November 16, 1883.

WILLIAM P. FISHBACK, *Master.*

And afterwards, to wit, at the November term of said court, on the 21st day of November, 1883, before the Honorable William A. Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the defendant, by Mess. Parkinson and Parkinson, its solicitors, and files its motion to strike the master's report herein from the files, and said motion is in the words following, to wit:

Now come the defendants herein, respectively, and move the court to strike from the files and set aside the master's report herein and to refer the said cause back to the master for reasons as follows, to wit:

First. That the said report was irregularly and improperly filed without submitting a draft thereof to defendants or their solicitors.

50 Second. That the master did not, before filing said report, as he was in duty bound to do, submit the same or a draft thereof to defendants or their solicitors, or notify them that the said report was ready or about to be filed, or of the tenor, effect, or substance thereof, or issue or serve upon them any warrant advising them that the said report was prepared and about to be filed, or allow them any opportunity of inspecting it or ascertaining the nature or purport of said report or of obtaining a draft thereof; but, on the contrary, the same was filed before defendants or their solicitors were advised that the master was ready to submit the same or had prepared a draft thereof, and without affording them any means of ascertaining the purport thereof or of offering or noting objections or exceptions thereto, whereby defendants were deprived of the opportunity to object to the manifold errors therein and the unjust, illegal, and wrongful recitals and findings thereof, to their great injury and damage.

PARKINSON & PARKINSON,
For Def'ts.

I, Robert H. Parkinson, being duly sworn, depose and say that I have been, throughout the pendency of said cause before the master, solicitor for defendants, in charge thereof, and that the grounds assigned in the foregoing motion are, to my personal knowl-
51 edge, founded in fact.

ROB'T H. PARKINSON.

Sworn to in my presence and signed before me this 20th day of November, 1883.

FRANK W. BURNHAM,
Notary Public in and for Ham. Co., O.

And afterwards, to wit, at the November term of said court, on the 3d day of December, 1883, before the Honorable William A. Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Messrs. Banning and Banning, his solicitors, and the defendant, by Messrs. Parkinson & Parkinson, its solicitors, and thereupon the court, being sufficiently ad-

vised, doth now overrule the motion of the defendant, filed herein on the 21st day of November, 1883, to strike the master's report herein from the files; to which ruling of the court in overruling said motion the defendant, by its solicitors, now here excepts.

And afterwards, to wit, at the November term of said court, on the 14th day of December, 1883, before the Honorable William A. Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the defendant, by Messrs. Parkinson & Parkinson, its solicitors, and files its exceptions to the report of the master
52 herein in the words following, to wit:

Circuit Court of the United States for the District of Indiana.

MATTHEW GOTTFRIED *vs.* THE CRESCENT BREWING CO.	7152.	In Equity.
MATTHEW GOTTFRIED *vs.* RACHAEL S. GAFF, Executrix, &c., and SAMUEL D. LANGTREE.	6454.	In Equity.
MATTHEW GOTTFRIED *vs.* EUGENE HACK and ANTON SIMON.	6840.	In Equity.

Exceptions taken by defendants to the report made in the above-entitled cause- by W. P. Fishback, master, to whom these causes were referred by an order of this court made in the interlocutory decrees herein, and being the report dated November 16th, 1883, and filed about said date.

Now come the defendants herein, respectively, and except to the said report of said master for reasons as follows, viz:

First. For that the said report disregards in its findings the fact appearing in evidence, as well by the admissions of complainant in his cross-examination before the master as by the assignments
53 and other proofs, that complainant has not suffered any actual damage by reason of the infringement complained of beyond the loss of the sale of the machines used by the several defendants, which, at the rate of royalty established by himself and his associates and predecessors in title under the patent, would not exceed twenty dollars, and has erroneously substituted for such measure of recovery a speculative royalty never actually established, and never proposed as a royalty to be exacted from any person voluntarily purchasing and putting into use said machine, and not representing any actual damage suffered by complainant by reason of defendants' infringement.

Second. For that the said report disregards the fact established in evidence that no person has ever voluntarily put one of the infringing machines in use in the ordinary course of business under any conditions that involved the payment of more than the ordinary

selling price of the machine, and the further fact that complainant or his predecessors or associates in title under the patent have never at any time exacted from persons voluntarily dealing with them in introducing the machine into use any tribute beyond the profit in the sale of the machine, and fails to find, as the fact is, that there is no proof nor presumption that complainant could or
54 would, but for the infringement of defendants, have obtained more than the said profit on the sale of a machine, including therein manufacturer's profits as well as royalty under the franchise, and no proof nor presumption that he has been damnified in any way beyond the loss of said amount, and substitutes as the measure of recovery herein vague speculations of witnesses as to the value of the invention, unsupported by data and inconsistant with the conduct of the witnesses themselves and the facts shown in the cause.

Third. For that the said report fails to find, as the evidence shows, and especially the depositions of Boss, Brenner, Frech, Gerst, Hauck, Herancourt, Liebel, Moerlein, Muhlhauser, Scharf, Schmidt, Schmitt, Schreiber, Schwarz, and Windisch, taken before the master, that the entire cost of pitching by hand, if all the employees engaged in the work were specially employed for that purpose, would be less than one-tenth part of the royalty of 15c. per keg, $1.00 per cask of less than 30 bbl. capacity, and $1.50 per cask of more than 30 bbl. capacity, awarded as damages herein.

Fourth. For that the said report fails to find, as is fully established in evidence, as well in the depositions recited in the last preceding exception as in the depositions in behalf of complain-
55 ant and the evidence in the original record in this cause, that pitching by hand, as usually conducted, did not involve the employment of any additional hands in the breweries, but was carried on in the otherwise leisure time of the regular employees; that the breweries could not economically introduce complainant's machine at a cost for its use exceeding the purchase price thereof, and that, while it has been in the market throughout the term of the patent and open to use free from royalty by all who were willing to purchase it, many brewers have continued to pitch by hand in preference to the use of it, and of those who have had it some have by preference continued to pitch their casks by the old methods, while others have, under similar circumstances, by preference continued to pitch their kegs by the old methods.

Fifth. For that the said report fails to find, as is established in evidence, and especially in the cross-examination of complainant's witnesses, Hoehle, Loeffel, Meir, Roessler, Seib, Schuerle, F. A. Steiner, F. Steiner, Thienzer, Thorman, Uhleman, Walther, and Welker, that the witnesses who estimated the value of complainant's invention at 15c. per keg, $1.00 per cask of less than 30 bbl. capacity, and $1.50 per cask of more than 30 bbl. capacity for each pitch-
56 ing, give no data to support their estimate, but, on the contrary, were shown to have returned to pitching by hand, or to the use of means for heating their casks and kegs common for that purpose long prior to complainant's invention, notwithstanding the use of complainant's machine without license and upon the pay-

ment of the cost of the machine was open to them and known to be open to them at the time.

Sixth. For that the said report fails to show the fact established in evidence by the depositions above named in behalf of defendants, and by the depositions in the original record herein, and by the depositions in behalf of complainant herein; that the Seibel machine here in evidence, and shown to long antedate complainant's invention, is still generally used for the purpose of pitching casks by brewers who have the machine here in controversy in their breweries with the right to use it without royalty.

Seventh. For that the said report erroneously finds complainant's damages to be 15c. per keg, $1.00 per cask of less than 30 bbl. capacity, and $1.50 per cask of more than 30 bbl. capacity for each pitching, whereas it should find that complainant has failed to show any damage beyond the loss of the sale of the machines used
57 by defendants at a royalty not exceeding twenty dollars.

Eighth. For that the said report fails to find, as the fact is, that complainant has failed to show himself to have sustained any actual damage by reason of the infringement complained of and to award nominal damages.

Ninth. For that the said report fails to find, as the fact is, that said complainant has not shown himself to be entitled to recover damages by reason of any infringement occurring prior to the title of Holbeck, the co-patentee, *in* May 1, 1879.

Tenth. For that the said report fails to find, as the fact is, that complainant, having granted to said Holbeck, May 1, 1879, the right to sell said machines at a royalty of ten per cent. on the price of the machine, has suffered no damage by reason of any infringement occurring since said date beyond the loss of said royalty of ten per cent. on the price of the machine.

Eleventh. For that the said report fails to find, as the fact is, that the said complainant, having released said loyalty and all claims thereto, has not, by reason of any infringement occurring since said release, suffered any damage whatsoever.

Twelfth. For that the said report erroneously finds that complainant has an established royalty or license fee at the rate of 15c.
58 per keg, $1.00 per cask of less than 30 bbl. capacity, and $1.50 per cask of more than 30 bbl. capacity, whereas it should find, as the evidence shows and especially the cross-examination of complainant himself before the master, that no such royalty or license fee was established.

Thirteenth. For that the said report erroneously finds that the royalty or license fee of 15c. per keg, $1.00 per cask of less than 30 bbl. capacity, and $1.50 per cask of more than 30 bbl. capacity for each pitching, is fair and reasonable, whereas it should find that said royalty is neither fair nor reasonable, but grossly unfair, unreasonable, and extortionate.

Fourteenth. For that the said report erroneously finds said royalty or license fee of 15c. per keg, $1.00 per cask of less than 30 bbl. capacity, and $1.50 per cask of more than 30 bbl. capacity is applicable as a measure of damages in these causes, whereas it should find

that it has no application or relevancy to said causes and does not furnish or tend to furnish any measure of the damages sustained by complainant by reason of the infringement of these defendants.

Fifteenth. For that the said report erroneously finds that the said royalty last above mentioned is not above the fair value of the invention, whereas it should find, as is established by evidence
59 here, especially depositions in behalf of defendant herein before the master, that said sums were many fold the entire cost of pitching by hand and grossly in excess of the value of complainant's invention and furnish no measure of damages to be recovered in this cause.

Sixteenth. For that the said report erroneously finds that the measure of damages in this cause is the value of complainant's invention, whereas it should find that the measure of recovery herein is the actual damage shown to have been inflicted upon complainant by reason of defendant's infringement.

Seventeenth. For that the said report erroneously adopts as the measure of the value of said invention and of complainant's damages herein a speculative estimate, not computed from any data appearing in evidence or shown to be possessed or relied upon by the witnesses and inconsistant with the conduct and admissions of the witnesses making such estimates and with the facts established in evidence.

Eighteenth. For that the said report erroneously finds that settlements to which defendants are strangers afford the measure of recovery against defendants, whereas it should find, as the
60 evidence shows, that the said settlements were, if made at all, made under pending or threatened litigation and to avoid prosecution and afford no measure of damages herein.

Nineteenth. For that the said report erroneously finds that the settlements made by complainant were made on the basis of a uniform royalty or license fee, whereas it should find, as the evidence shows, that the said settlements were not made on any uniform royalty or license fee, but for such varying amounts as complainant was able to extort.

Twentieth. For that the said report erroneously recites that Gottfried "names thirteen licenses which he gave, and says there are others," and represents the same to have been licenses at a fixed rate of royalty, whereas it should find, as the fact is, that Gottfried names or refers to but six so-called licenses of any kind as having been granted, and admits expressly that these all included settlements for past infringements; that of these six one was never acted upon; that the remainder were paid-up licenses upon estimates claimed to have been made in advance, instead of upon reports at stated periods during the remainder of their term, as provided in them, with the exception of one, upon which one report only is represented to have been made, showing no kegs pitched and
61 only twenty-two casks; that they were all made or effected through the intervention of complainant's attorneys, for sums less than the expense of litigation, and, with one exception, litigation

had been commenced and was being pushed prior to the time of effecting such settlements.

Twenty-first. For that the said master erroneously finds that the same questions involved in this controversy have been heard and determined in other courts, whereas he should find, as the fact is, that there is no evidence showing the said questions to have been presented or passed upon by any master or court whatsoever, other than as the courts have in causes arising under other patents decided the law to be contrary to that administered by the master herein.

Twenty-second. For that the master erred in examining and considering evidence in other causes to which these defendants are strangers, which evidence was not exhibited to defendants or their counsel or in any way introduced into this cause.

Twenty-third. For that said report erroneously finds that "little, if anything, was ever done" under the license from Gottfried to Holbeck, granted in 1870, and that it was subsequently revoked, whereas it should find, as appears from the assignments in evidence and from the testimony of Gottfried and others, both before the
62 master and in the original record, that the said license continued in force at least until March, 1875; that it does not appear that the same was legally revoked at that time, and that a company was organized and the patented machine with subsequent improvements put on sale without restriction as to its use, and continued thus on sale under authority of the patent until the title was reacquired by the patentees not earlier than 1879, and subsequently to the last-named date was continued on sale by Holbeck, with express authorization of complainant, to the expiration of the term of the patent.

Twenty-fourth. For that the said report erroneously finds that the title to the patent became revested in the patentee partly in 1875 and partly in 1876, whereas it should find, as fully appears from the records, that it did not become so revested until 1879 or subsequent thereto.

Twenty-fifth. For that the said report erroneously finds that "in the meantime brewers and others regarded and treated the patent as invalid and engaged extensively in making and using infringing machines," whereas it should find, as the fact is, that there is no evidence showing that the validity of the patent was under consideration or any opinion formed with reference thereto by the
63 brewers at said time, or that infringing machines were made or used in sufficient numbers to affect or did affect the sale of the complainant's machines.

Twenty-sixth. For that the said report erroneously finds that up to the decision of Gottfried *vs.* Philip Best Brewing Co. the brewers generally considered the patent as invalid and were unwilling to recognize patentee's rights, whereas it should find, as the fact is, that there is no evidence to show that at or prior to said date the question of the validity of said patent had ever been brought before the said brewers or considered by them, or that any brewer to whom the patentee or those authorized under the patent had offered to sell a

machine or to deal with, as they were dealing with others in the ordinary course of business, had refused to recognize any right existing under said patent.

Twenty-seventh. For that the said report erroneously finds that the license given to Holbeck in May, 1879, was part of the consideration for Holbeck's interest in the patent, whereas it should find that the same was granted for the consideration of the license fee retained.

Twenty-eighth. For that the master erroneously finds that the franchise held under the patent could be and was divided
64 between the patentees, so that one was to enjoy the monopoly of the introduction of the machine to lawful uses while the other recovered from infringers upon the basis of a speculative estimate not based on any business actually carried on under the franchise and exceeding many fold the profit made or capable of being made by any method ever adopted for its lawful introduction and use.

Twenty-ninth. For that the said report erroneously finds that "there is a square conflict in the evidence between plaintiff and defendant as to the value of the invention," whereas it should find that the facts established in evidence, as well by complainant's as by defendants' evidence, prove that it had no sufficient value over old methods to render its introduction probable on any terms more expensive to the user than the payment of the purchase price of the machine.

Thirtieth. For that the said report erroneously represents that the sale of machines at a royalty not exceeding twenty dollars was only employed as a mode of enjoying the franchise in the early efforts to introduce the invention, whereas it should find, as is established by admissions of complainant in his cross-examination before the master, by the assignments in evidence, and otherwise, that the royalty of twenty dollars per machine is the maximum royalty
65 that has ever been asked under the patent in any efforts ever made to introduce the lawful use of the machine, and that machines have been on sale under authority of the patent throughout its entire term at a royalty not exceeding twenty dollars per machine, and that the aggregate profit on the sale of such machines, as fixed by the patentees, prior to and throughout the infringements herein, did not exceed fifty dollars, including in the said fifty dollars all manufacturers' profits and all profits on added improvements.

Thirty-first. For that the said report erroneously finds that the said invention is a very important and valuable one, whereas it should find the contrary.

Thirty-second. For that the said report erroneously describes and misrepresents the process of pitching as carried on before complainant's invention was known, in this, that it recites the same as follows, to wit:

"The hoops were knocked off and staves loosened, the head taken out, the hoops put on and tightened, the pitch and wood heated by fire built inside the keg, the hoops knocked off and staves loosened

again, the head put in, the hoops put on again, and the staves tightened up again;"

66 Whereas it should find, as the evidence shows, that the process most commonly in use prior to the date of said invention was as follows, to wit: The hoops at one end were removed, the head taken out, the pitch then ignited by passing a heated iron rapidly over the mouths of a series of kegs placed in a row, the pitch poured in, the heads replaced, the hoops tightened, and the kegs rolled.

Thirty-third. For that the said report erroneously finds that by using the complainants' invention the pitching is done without the trouble of taking the steps taken in pitching by hand, whereas it should find, as the evidence shows, especially the depositions, before the master, of Windisch, Schwarz, Schrieber, Schmidt, Schmitt, Scharf, Muhlhauser, Moerlein, Siebel, Herancourt, Hauck, Gerst, Frech, Brenner, and Boss, that where the pitching was done by machine it was necessary, in the first instance, to go over the kegs with a torch specially provided therefor and inspect the interiors of the kegs, to remove therefrom, by implements specially provided for the purpose, any refuse matter found therein; to then apply them to the pipe of the furnace in which fire had been kindled for the purpose and to which a blast was applied by means of a mechanical

67 fan put in operation with motive power obtained from the boiler heated by another furnace; to then remove the kegs; to then introduce pitch which had been heated by another fire through the bung or spigot hole of the keg; to then roll the keg, and subsequently tighten the hoops thereof to compensate for the shrinkage caused by the heat, and that it was further necessary, if injury to the bung hole was to be prevented, to introduce into the bung hole of each keg so pitched a metallic bushing to protect said bung hole from being burned or rendered irregular by the heat of the pipe from the furnace inserted into it.

Thirty-fourth. For that the said report erroneously fails to find, as the evidence shows, especially the depositions last above cited, that the inspection and removal of impurities from the inside of the keg, made necessary where the pitching is by machine, consumes more time and involves more labor than the removal of the heads of the kegs and is less thorough in its purification of the kegs.

Thirty-fifth. For that the said report erroneously finds that complainant's machine saves time and labor, whereas it should find the contrary, as the evidence shows, and especially that last above recited.

Thirty-sixth. For that the said report erroneously finds

68 that complainant's machine saves pitch, whereas it should find the contrary.

Thirty-seventh. For that the said report erroneously finds that the vessels are better pitched by machines, whereas it should find that the evidence shows that the pitching is more thoroughly and better done by the old methods, and that the same fully appears as well in the depositions last above recited as by the depositions in behalf of defendants in the original record.

Thirty-eighth. For that the said report erroneously finds that the taking out of the heads and displacing the staves injures the kegs, and that they will last much longer when pitched by machine than when pitched in the old way, whereas it should find that the injury to the keg by reason of the warping from constant heat when using the machines is much greater than any injury from the removal of the heads; that the kegs are destroyed more rapidly thereby, and that the burning of the bung holes, incident to the use of the machine, was so destructive as to render it impossible for the machine to compete with the hand-pitching with economy without the use of means of preventing such injury invented and introduced subsequent to the date of complainant's patent.

Thirty-ninth. For that the said report erroneously finds
69 the fact of defendants' use of machines for pitching proves it "to possess great advantages over the old pitching process," whereas it should find that such use, if it involved the use of no other improvements, would not be evidence of more than a nominal advantage; that defendants have never used said machine except with improvements not found in complainant's patent; that they continued during the larger part of the term of the patent and until further improvements had been introduced to pitch by old methods, and that the defendants, The Crescent Brewing Co. and Rachael S. Gaff *et al.*, have continued throughout by preference to use old methods in a large part of their pitching, including all their casks.

Fortieth. For that the said report erroneously recites defendants to concede that complainant is entitled to recover a royalty of twenty dollars per machine, whereas it should find, as the fact is, that defendants have insisted that the actual damage suffered by complainant by reason of infringement and to be recovered herein cannot exceed the said sum, and that complainant was not entitled to that or any recovery until he should affirmatively show that he had used such diligence in introducing his invention and keeping it before the public, and that it was of such merit as originally
70 exhibited in his patent and without further improvements as to establish the presumption that defendants would have purchased complainant's machine, paying the royalty thereon as a part of the price thereof, if they had not purchased an infringing machine.

Forty-first. For that the said report erroneously recites extracts from the direct examination of complainant, and fails to recite his cross-examination relevant thereto, and the evidence of defendant's witnesses by which his direct examination so recited is materially modified and contradicted.

Forty-second. For that the said report erroneously finds that complainant's invention was adopted and used in three thousand breweries within the twelve or thirteen years after the patent was issued, whereas it should find, as the fact is, that it is not shown to have been introduced and used in more than thirty breweries during said time; that in these it was coupled with additional improvements, and that complainant, being the only witness who undertook to state the number of breweries in which said machine had been used, ad-

mits, on cross-examination, that he was not, during or subsequent to the term of said patent, seen any machines that he claims to be within his invention in use in more than two hundred to two hundred and fifty breweries.

71 Forty-third. For that the said report erroneously finds that the question for the master to determine is, whether the sales of the few machines under the circumstances stated, while the patent was considered invalid, establishes any royalty which would prevent the complainant from recovering at another and higher rate, whereas it should find that the question is, whether the complainant has shown himself to have suffered, by reason of defendant's infringement, any damage beyond the loss of said royalty; and should further find that there is no evidence showing or tending to show that complainant has lost, by reason of said infringement, any benefit or advantage or suffered any injury beyond said royalty.

Forty-fourth. For that the said report erroneously assumes and represents that said sales were few in number and due to and affected by infringements, the patent being considered as invalid, whereas it should find that this method of enjoying the franchise, by the sales of machines with right of unrestricted use, was adopted by the patentee and his associates in title at the outset and before they had been affected by infringements, and continued throughout the entire term of the patent as the only means employed by them of in-

72 troducing said invention or enjoying said franchise, and that it does not appear that it was adopted in view of or in anywise due to any infringements or any adverse opinion entertained as to the validity of the patent.

Forty-fifth. For that the said report erroneously finds that the unwillingness to recognize the validity of the patent placed the patentees to great disadvantage and rendered it impossible for them to deal on equal terms with brewers in selling the machines, and that the effect of this disregard of the patentees' rights was to cut down the profits, whereas it should find, as the fact is, that it does not appear that the profit on machines was ever reduced in view of any infringement, or that any brewer to whom a machine manufactured under authority of the patent was offered ever elected to take in place thereof an unauthorized machine, or that any user of an infringing machine ever refused, when asked to pay complainant or his associates or predecessors in title to the patent, any royalty or profit that he would have made by the sale to them of the number of machines used by them at any rate ever obtained or asked in the authorized sale of the machines.

Forty-sixth. For that the said master erroneously finds that there was a time after the sale of said machines commenced when

73 complainant or his associates or predecessors in title could not sell any machines at all, and represents the same to have been due to infringements, whereas he should find, as the evidence shows, that the failure to sell machines was due to mismanagement, lack of business enterprize, and dissensions among the holders of the title to the patent and their licensees, and to the fact that the said invention without additional improvements was not found

profitable by the brewers and was in nowise due to any infringement.

Forty-seventh. For that the said report erroneously finds that while said patent "was considered invalid it is improbable that the purchase of any machines made by Holbeck gave him any more than the price of labor and material represented in the machines with manufacturer's profits, and it is not likely that the inventor's royalty entered into the selling price of the machines," whereas it should find that there is no evidence showing or tending to show that the price at which said machines were sold throughout the entire term of the patent was not adequate to pay both royalty under the franchise and manufacturer's profits, and that the evidence does affirmatively show that the said price was fixed with the view to payment of said royalty and the realizing of profits in addition thereto.

74 Forty-eighth. For that the said report erroneously finds "that the fact that sales made by Holbeck were few and at variable rates for the purpose of introducing the invention is to be considered," whereas it should find, as the evidence shows, that the said sales were adopted voluntarily as the mode of making profit out of the franchise and at rates fixed before the same had been affected by infringement, and that the small number of sales was due to the fact that the machines offered were not regarded as sufficiently desirable to compensate for the price demanded therefor and to lack of business efficiency in introducing the same and creating a market therefor.

Forty-ninth. For that the said report erroneously finds that said Holbeck seems to have offered his machines at almost any price, whereas there is no evidence showing or tending to show the same.

Fiftieth. For that the said report erroneously finds that Holbeck was not able to sell to more than one out of one hundred and fifty brewers that adopted the invention, whereas there is no evidence showing or tending to show such fact or approximation thereto.

Fifty-first. For that the said report erroneously finds that there came a number of years in which no machines authorized under
75 the patent could be sold at all, whereas there is no evidedce to such effect, but the contrary.

Fifty-second. For that the said report erroneously recites and represents that the license fee for sale of machines adopted by complainant was one which he was compelled to accept by reason of infringement, whereas there is no evidence showing or tending to show that complainant was compelled or in anywise influenced in the adoption of the same by any infringement whatsoever.

Fifty-third. For that the said report erroneously finds that complainant is not necessarily bound by the rate at which machines were sold under the patent, whereas it should find that there is no evidence showing or tending to show that complainant has suffered any damage beyond the loss of said sales, and that if not entitled to recover damages upon the basis thereof he is not entitled to any damages whatsoever.

Fifty-fourth. For that the said report erroneously finds that the

arrangement between Gottfried and Holbeck, made at the time the Baltimore company was organized, has no application in determining or fixing the rate of recovery, whereas it should find that the said arrangement and the sale of machines thereunder and
76 subsequently thereto afforded the only measure of complainant's damages upon which recovery herein could be had.

Fifty-fifth. For that the said report erroneously finds that said agreement was a personal agreement between old friends, and one which did not affect their rights as against the public, whereas it should find that there is no evidence of friendship between the patentees, or of their having been moved in said agreement by other than business considerations; that, whatever the motive thereto, it and the transactions under it fixed the measure of complainant's advantage in the introduction of each machine and the limit of his damage by reason of any tortious introduction of such machine.

Fifty-sixth. For that the said report erroneously finds that the arrangement for this license was made for the purpose of assisting Holbeck in his efforts to introduce the invention, whereas it should find that it was made in furtherance of the policy of the patentees, as adopted by both from the outset, of introducing their invention by sale of machines, and as fairly apportioning between them the measure of advantage to be obtained from the enjoyment of the said franchise.

Fifty-seventh. For that the said report erroneously fails to
77 find that said complainant is not damnified in excess of the profit which he would have obtained by the sale of machines at therate at which they were lawfully made and sold under authority of the patent during the term thereof, irrespective of whether said rate was fixed with his personal concurrence or by other parties who at the time had lawful title.

Fifty-eighth. For that the said report erroneously finds that the right of said Holbeck to sell said machines was rescinded, whereas it should find that said Holbeck had that right throughout the term of the patent.

Fifty-ninth. For that the said report erroneously finds that the license to sell machines given to Holbeck at the time of his sale of his interest in the patent to Gottfried was entitled to no effect, as showing complainant's damage not to have exceeded the royalty which would have been obtained by sales of machines thereunder, whereas it should find that the effect of the same was to limit the damage suffered by complainant during the time such license continued in force to ten per cent. of the selling price per machine.

Sixtieth. For that the said report erroneously finds that said license was granted when said patent was considered invalid, whereas it should find that there is no evidence to show it was so con-
78 sidered by any party to the transaction or by others at said time, while the evidence does show that the patent had already been declared valid in the only cause in which its validity had been passed upon.

Sixty-first. For that the said report erroneously finds that said contract was limited to operation with brewers who had never in-

fringed the patent or who had settled for infringements, whereas it should find, as the evidence, and especially the cross-examination of complainant before the master, shows, that it was not in legal effect so limited, and that said Holbeck was allowed thereunder to sell and advertise said machines generally under said patent, putting them on the market, marked thereunder, without any intimation to the public of any limitations whatsoever upon their sale.

Sixty-second. For that the said report erroneously finds that it does not appear that any machines were sold under the last license to Holbeck, or at what price they were sold, or that Gottfried was in any way connected with the sale of them, whereas it should find, as appears in evidence and, among other places, in the cross-examination of complainant in the original record, that machines were sold and license paid thereunder at the rate of ten per cent.
79 on the selling price up to December, 1879, and that they continued to be sold after that without royalty and with the approval and consent of said Gottfried, and at a gross selling price which he admits not to have exceeded from one hundred and thirty-five to one hundred and eighty-five dollars per machine; and should further find that if complainant failed to show the rate of sales subsequent to the granting of said last-named license he could not recover for any machines put into use thereafter.

Sixty-third. For that the said report erroneously finds that the fact that the settlements referred to were made after suits were begun is not sufficient to break their force as proof of damages herein, whereas it should find that such settlements afford no evidence of damage whatsoever.

Sixty-fourth. For that the said report erroneously finds that said infringers did not pay more than they believed they were liable for and would have been obliged to pay at the end of litigation, whereas it should find that, whether they did or did not believe they were liable for such damages, their settlements could not affect the measure of recovery herein; that it was evident that they did pay more than they were liable for, and that said settlements were made solely to escape the expense and annoyance of vexatious
80 litigation.

Sixty-fifth. For that the said report erroneously finds that "it is enough to say that no evidence has been introduced showing that the settlements were not fair or that they resulted from coercion or were the result of collusion," whereas it should find that it did appear that said settlements were extortionate and resulted from coercion or collusion, and that, such settlements not being relevant or competent as a measure of recovery herein, defendants were not called upon to prove the character of inducements offered or influences brought to bear to procure the same.

Sixty-sixth. For that said master has failed to find, as the evidence shows, especially the evidence produced in the cross-examination of complainant before the master, that complainant has used in many cases fraudulent misrepresentations and employed illegitimate agencies for influencing and procuring extortionate settlements under said patent.

Sixty-seventh. For that the said report erroneously finds that defendants have been forcing complainant to expensive and protracted litigation, whereas it should find that there is no evidence to
81 show that defendants would not amicably at any time when asked have paid complainant the amount of royalty which he was making by the lawful sale of his machine, and that complainant has in fact forced upon defendants the expense of protracted litigation by pressing upon them uncons-ionable and exorbitant claims.

Sixty-eighth. For that the said report erroneously finds that defendants have been depriving complainant of the enjoyment of his rights for ten or twelve years, whereas it should find that the longest term of either infringement herein did not much, if any, exceed four years.

Sixty-ninth. For that the said report erroneously finds that complainants were not in a condition or position that enabled them to enforce their rights against infringers prior to Judge Dyer's decision in 1879, whereas it should find that there is no evidence to show that from the date of the granting of the patent they were not in such condition and position.

Seventieth. For that the said report erroneously fails to find, as it should, that said complainant, having allowed infringing machines to be made and sold generally by manufacturers for many years prior to the date of the infringement herein, and having taken no steps to enjoin or prevent the same, has been guilty of such
82 lache in respect to his franchise that he is not entitled to recover any damages against these defendants in a court of equity.

Seventy-first. For that the said report erroneously finds that the hand-pitching process is expensive and must in the nature of things be wasteful as to materials used and destructive to the casks that are subjected to the treatment, whereas it should find, as the evidence shows, that it is not more so than the use of complainant's invention.

Seventy-second. For that the said report erroneously finds that fifteen witnesses have been examined by complainant upon the advantages of complainant's invention and fourteen by defendant, whereas it should find that fourteen witnesses were examined before the master in behalf of complainant and fifteen in behalf of defendants; that of those who testified in behalf of complainant none gave or showed themselves to possess data to support the estimates made by them; that those testifying in behalf of defendants gave definite and accurate facts, fully showing that complainant's invention possessed no advantages sufficient to have induced its use at any royalty exceeding that of twenty dollars per machine, and that the said fact was further proved by evidence found in the original record herein.

83 Seventy-third. For that the said report erroneously finds that of the witnesses examined by complainant nine are disinterested, whereas it should find that all were warm partisans in this controversy and allies of complainant.

Seventy-fourth. For that the said report erroneously finds that complainant's machine was the first way ever devised for pitching kegs without taking the heads out, and that it has superseded the old method of pitching, whereas it should find that it consisted only in a machine for heating the interior of kegs—a process in itself old; that other machines equally adapted to that purpose are shown in evidence to have been in existence long prior to the date of complainant's invention; that such machines have been and are being extensively used in the larger breweries of the country in lieu of complainant's, and have been substituted therefor by parties having complainant's machine, with the right to use the same without license.

Seventy-fifth. For that the said report erroneously finds that the speculative opinions of witnesses called in behalf of complainant unsupported by and inconsistent with facts proved is entitled to greater weight in fixing the value of complainant's invention than definite, positive, and undisputed testimony as to facts upon which said value depends.

84 Seventy-sixth. For that the said report erroneously finds that "Judge Treat sustained complainant's position and affirmed the report" of the master in the southern district of Illinois, whereas it should find that there is no evidence to show that the questions involved in this controversy were presented or passed upon by Judge Treat, or that there was any *bona fide* contest upon any questions whatsoever before him.

Seventy-seventh. For that the said report fails to find, as it should, that defendant, The Crescent Brewing Co., being in fact a continuation under incorporation of the business of James W. Gaff & Co., and the said James W. Gaff & Co. and the Crescent Brewing Co. having together used but one machine, complainant is only entitled to recover against said several defendants the royalty on one machine, and that the satisfaction of judgment for such royalty by either of said defendants will be a satisfaction of judgment in both the suit against said Crescent Brewing Co. and that against Rachael S. Gaff *et al.*

Seventy-eighth. For that the said report fails to find, as it should, that defendants having infringed but two out of the three claims of the patent, and complainant having failed to apportion

85 the royalty between said claims, said complainant is not entitled to recover more than two-thirds of said royalty.

Seventy-ninth. For that the master erred in admitting in evidence contracts to which these defendants were strangers and testimony relative thereto and in overruling defendant's objections to the same.

Eightieth. For that the master erred in admitting speculative estimates of the value of the patented invention and in overruling defendant's objections thereto.

Eighty-first. For that the master erred in admitting the testimony of the following witnesses, to wit: William J. Seib, Anton Schuerle, Clements Uhleman, Edward Thorman, Emil Welker, William Roessler, William Koehle, Joseph Meier, Sassimer Thienge, Ferdi-

nand Steiner, Fred. A. Steiner, August Loeffel, Frank Walther, and so much of the testimony of Matthew Gottfried as related to estimates of the value of his said invention and to settlements and recoveries under said patent, whereas he should have excluded the same and sustained defendant's objections thereto.

Eighty-second. For that the master erred in awarding as damages against the said Crescent Brewing Co. the sum of $4,215.95, whereas he should have found and reported nominal damages only.

86 Eighty-third. For that the master erred in awarding as damages against the said Rachael S. Gaff, administratrix, and Samuel D. Langtree the sum of $5,460.45, whereas he should have found and reported nominal damages only.

Eighty-fourth. For that the master erred in awarding as damages against the said Hack and Simon the sum of $700.00, whereas he should have found and reported nominal damages only.

Eighty-fifth. For that the master erred in overruling the objections to evidence offered in behalf of complainant, specifically noted on the master's record by defendants at the time, and in admitting and considering the evidence so objected to.

Eighty-sixth. For that the master erred in that he did not exhibit said report or a draft thereof to defendants' solicitors or give them any opportunity to note their objections thereto before the said report was filed.

Respectfully submitted,

PARKINSON AND PARKINSON,
For Defendants.

Cincinnati, O., Dec. 13, 1883.

And afterwards, to wit, at the November term of said court, on the 5th day of December, 1884, before the Honorable William A.

87 Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause coming on to be heard upon the exceptions filed by the defendant to the report of William P. Fishback, Esq., the master to whom this cause was referred, which report is dated the 16th day of November, 1883, and by which it appears that there is due from the defendant to the complainant the sum of four thousand two hundred and fifteen dollars and ninety-five cents ($4,215.95) for the infringement by the defendant of letters patent of the United States No. 42580, issued to Gottfried and Holbeck May 3d, 1864, for an improved mode of pitching barrels:

It is thereupon, upon consideration thereof, ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that all said exceptions to said master's report be, and the same are hereby, overruled, and that said report do stand in respect to amount of damages found due complainant ratified and confirmed.

It is further ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that the said defendant pay to the said complainant the sum of four thousand two hundred

88 and fifteen dollars and ninety-five cents ($4,215.95), and also

the costs of suit, to be taxed herein at $—, and that the complainant have execution therefor.

It is further ordered that William P. Fishback, Esq., be allowed $— in full for his services as master in this cause, the same to be taxed and collected as other costs.

And afterwards, to wit, at the November term of said court, on the 8th day of December, 1884, before the Honorable William A. Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson and Parkinson, their solicitors, and file their motion for appeal in the above-entitled cause in the words following, to wit:

Now comes the defendant herein and moves the court to allow an appeal and to fix the bond to be given thereupon.

Respectfully

PARKINSON & PARKINSON,
For Def't.

Cincinnati, Ohio, Dec. 6, 1884.

And afterwards, to wit, at the November term of said court, on the 3d day of January, 1883, before the Honorable William A. Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

89 Come now the defendants, by counsel, and thereupon the court doth hereby grant the prayer of said defendants for an appeal herein upon its filing a bond in the sum of $7,500.00, with sureties, to the approval of the court.

And afterwards, to wit, at the November term of said court, on the 20th day of January, 1885, before the Honorable William A. Woods, judge as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the defendant, by Messrs. Parkinson & Parkinson, its solicitors, and files its appeal bond herein in the sum of seven thousand five hundred dollars, with Samuel D. Langtree and Rachael S. Gaff as sureties thereon, which is approved by the court.

And said bond is in the words following, to wit:

Know all men by these presents that we, The Crescent Brewing Co. and Samuel D. Langtree, of Aurora, Indiana, and Rachael S. Gaff, of Cincinnati, Ohio, are held and firmly bound unto Matthew Gottfried, of Chicago, Illinois, in the sum of seven thousand five hundred dollars, to be paid to the said Matthew Gottfried, his executors or administrator; to which payment, well and truly to be
89½ made, we bind ourselves and each of us, jointly and severally, and our and each of our heirs, executors, and administrators, firmly by these presents.

Sealed with our seals. Dated this 29th day of December, A. D. 1884.

Whereas the above-named The Cresent Brewing Co. has prayed an appeal to the Supreme Court of the United States to reverse the de-

cree rendered in the above-entitled action by the circuit court of the United States for the district of Indiana:

Now, therefore, the condition of this obligation is such that if the above-named The Crescent Brewing Co. shall prosecute said appeal to effect and answer all damages and costs if it shall fail to make good its said plea, then this obligation to be void; otherwise to remain in full force and virtue.

THE CRESCENT BREWING CO.
By JAMES W. GAFF, *Pres't.* [SEAL.]
RACHAEL S. GAFF. [SEAL.]
SAMUEL D. LANGTREE. [SEAL.]

Sealed and delivered in presence of—
THOMAS T. GAFF.
J. D. PARKER.

The above security is approved.

W. A. WOODS,
Judge of the United States —, District of Indiana.

(Here follows the testimony in said cause:)

90 Circuit Court of the United States, District of Indiana. In Equity.

MATTHEW GOTTFRIED *vs.* SAMUEL D. LANGTREE *et al.*

Testimony in the above-entitled cause taken on behalf of the complainant, by agreement of counsel, before Charles C. Linthicum, a notary public, at the office of Banning & Banning, rooms 60 and 61, Honore building, Chicago, Illinois, Tuesday, June 15, 1880.

Present: Ephraim Banning, of counsel for complainant, and W. S. Holman, counsel for defendants.

Counsel for complainant offers in evidence a certified copy of letters patent of the United States No. 42580, issued May 3, 1864, to John F. T. Holbeck and Matthew Gottfried for an improved mode of pitching barrels, and the same is marked "Complainant's Exhibit Gottfried-Holbeck Patent."

JAMES R. VAIL, a witness produced, sworn, and examined on the part of the complainant, deposed and testified as follows:

Direct examination by Mr. BANNING:

My name is James R. Vail; age, 35 years; occupation, book-keeper for Crescent Brewing Co. of Aurora, Ind.; residence, Aurora, Ind. I have been engaged at the brewery now owned by the Crescent Brewing Company for the last six years or a little more. When I first commenced the brewery was operated by Gaff & Co., composed of James W. Gaff and Samuel D. Langtree. It continued to be operated by them until the 30th day of April, 1879, at which time the Crescent Brewing Company became its owner. The officers of the company are James W. Gaff (son of the former owner), presi-

dent; Samuel D. Langtree, treasurer and general manager, and myself, secretary. Mr. Langtree is the superintendent in the practical operation of the brewery. We have a regular board of directors, but he has general charge and directs what machinery shall be used, etc.

Q. 1. State whether or not any pitching machines have been used at the brewery of the Crescent Brewing Company or their predecessors during the time you have been there; and, if so, how many and what kind and how long have they been used?

A. There have been machines used for that purpose. There have been two used, the first in which steam was used and the second in which hot air was used. The last one is in operation now, but has been often repaired since it was originally bought. The first was there when I commenced at the brewery, and was used until the latter part of 1874 or the early part of 1875. It was a machine constructed as follows: A coil of gas pipe about an inch in diameter was placed in a brick furnace, the coil being about 20 inches in diameter and two feet in height, and a steam pipe leading
91 from the boiler in the brewery was connected with the coil. The coil was also provided with a nozzle which was inserted in the kegs, and through this the steam was introduced to heat their insides. When in operation there was a fire in the furnace that contained the coil, the object of which was to superheat the steam. No blower was used in connection with this machine.

The second machine, which is now in use, has a cast-iron furnace, with a fire grate near the bottom and a hole at the bottom to connect the blower and to introduce the air into the furnace. The furnace also has a hinged top which is provided with a nozzle, through which the hot air is introduced into the kegs, a pipe about sixteen inches long forming the connection. This pipe is screwed into the furnace so that when worn out it can be removed and another one put in its place. There is also a fan blower (known as a Root blower) so arranged that it can be connected with the furnace by a pipe which is inserted in the hole at the bottom under the fire grate. When used the furnace is filled with coke or charcoal and a fire kindled at the bottom; the blower is then operated and air forced into the furnace, which, passing up through the fire and becoming heated, is expelled through the pipe at the top into the keg or vessel to be heated. This machine has been in use at the brewery since early in 1875; about the 14th of January, 1875.

Q. 2. State how many casks and kegs have been pitched or heated for pitching at the brewery of the Crescent Brewing Company and their predecessors by the use of these machines, respectively, during the time you have been there, giving the number pitched each year as nearly as possible.

A. That is a pretty hard question to answer, as there is no record kept in the brewery of the amount of pitching done, and the only information I have is derived from the foreman and others employed at the brewery. The only way that I can form any idea is to judge from the number of vessels that we have in use and the frequency with which they have to be pitched. I may say, however, that we

have never pitched any large casks or vessels holding over a barrel with either of these machines. As near as I can judge or ascertain, we had six thousand seven hundred kegs in 1875, most of them being quarter barrels; in 1876 we were using about eight thousand and forty barrels or kegs, most of them being quarters; in 1877 we had ten thousand and fifty, most of them being quarters, but a little larger proportion being barrels and halves; in 1878 we had eleven thousand six hundred and fifty, the proportions being about the same as before; in 1879 (that is, for the fiscal year ending April 30, 1880), we had thirteen thousand four hundred and three, the proportion still continuing about the same. I do not think there has been any increase during the present year; we bought largely last year, and now have a little surplus, or more than we are using. We estimated on the 1st day of last May that we had about two thousand more than we had use for. We have followed the usual custom of brewers in our section of the country in pitching—that is, we have pitched about as often as others. I cannot tell with any
92 degree of accuracy how often we have pitched our vessels, but I will furnish a statement to defendant's counsel from which he can make a stipulation or admission in that regard.

This statement being furnished, defendant's counsel admits and consents that it may be considered and taken as proved that the defendants pitched or heated for pitching, by the machine last described, thirty-six thousand four hundred and five (36,405) kegs and barrels prior to April 30, 1879, and that since that time the Crescent Brewing Company has pitched or heated for pitching, by the use of said machine, sixteen thousand four hundred and three (16,403) kegs and barrels, most of them in each case being quarter barrels or what is commonly known as "quarters."

Cross-examination by W. S. HOLMAN, counsel for defendant:

Q. 3. If there is a loss of vessels annually used by the Crescent Brewery in the business of the company, reducing the number of casks you have mentioned as used by the company each year, state the extent of such annual loss, as near as you can.

A. We usually estimate this loss at from seven to ten per cent. of the number of casks used; this would include casks stolen, not returned, and lost in various ways.

Q. 4. From whom did Gaff & Co. procure the apparatus which you have mentioned for heating the casks for pitching with heated steam, and what was the cost of the machine?

A. They bought the machine from Stedman & Co., foundrymen, of Aurora, Indiana; I cannot state the cost.

Q. 5. From whom did Gaff & Co. procure the machine you have mentioned for heating casks for pitching with heated air? State the exact day, if you can, and the cost of the machine, and if the fan was purchased separate from the machine you have mentioned state separately the cost of the fan.

A. The purchase was made from Fritsch, Burkhardt & Co., of Cincinnati, Ohio; the bill was rendered on the 2nd day of January,

1875, and paid on the 25th of February, 1875; the fan, machine, and all cost $180.

Q. 6. In what business were Messrs. Fritsch, Burkhardt & Co. engaged at the time Gaff & Co. made the purchase of the machine?

A. They were foundrymen and manufacturers of machinery.

Q. 7. You may state, as far as you know or knew, as the bookkeeper of Gaff & Co., or as secretary of the Crescent Brewing Company, when Gaff & Co. or the Crescent Brewing Co. were first informed that said machines or either of them were patented or manufactured in the infringement of a patent right.

A. In the latter part of November, 1877.

Q. 8. If the James W. Gaff who was of the firm of Gaff & Co. is dead, when did he die?

A. Early in 1879; I think on the 17th of January, 1879.

Q. 9. Was Samuel D. Langtree a member of the firm of Gaff & Co., or was he receiving during the lifetime of James W. Gaff a certain per cent. of the profits of the business of the brewery as compensation for his services in connection with the brewery?

A. I do not know.

JAMES R. VAIL.

93 UNITED STATES OF AMERICA, *Northern District of Illinois,* } ss:

I, Charles C. Linthicum, a notary public in and for the county of Cook and State of Illinois, and residing in Chicago, do hereby certify that the foregoing deposition of James R. Vail was taken before me, by agreement of counsel, in the cause in the caption hereto entitled; that the said deposition was taken on behalf of the said complainant in said cause, and that the said witness was by me duly sworn to testify the truth, the whole truth, and nothing but the truth in said cause, and the deposition of said witness was reduced to writing in the presence of the witness and of counsel for the parties therein noted as present, and read over to the witness, who, in my presence, then subscribed the same as and for his deposition in said cause.

In witness whereof I have hereunto set my hand and official seal this 16th day of June, A. D. 1880, at Chicago, in the county and State aforesaid.

[NOTARIAL SEAL.] CHARLES C. LINTHICUM,
Notary Public.

According to the best estimate I am able to make, the firm of Gaff & Co. pitched or heated for pitching by the machine last described thirty-six thousand four hundred and five (36,405) vessels (including barrels, half barrels, quarters, and eights, or ponies), prior to April 30, 1879—that is to say, between the first of January, 1875, and April 30, 1879; and since April 30, 1879, the Crescent Brewing Company have pitched or heated for pitching sixteen thousand four hundred and three (16,403) vessels, including barrels, half barrels, quarter barrels, and eights, or ponies, of which number much the larger proportion were quarter barrels.

In explanation of my testimony heretofore given I wish to state that, on reflection and more careful inquiry, I find I did not sufficiently consider and take into account the number of vessels sent from the brewery to customers and not returned for a year or more, and of course were not pitched by the use of the machine named; and also the large number of casks kept on hand for use but not actually used, and the large number of vessels employed in the immediate vicinity of the brewery and not subject to rough usage and requiring pitching only at long intervals. I have taken these facts into consideration in my estimate of the number of vessels actually pitched or heated for pitching during the period named.

The vessels actually in use have been pitched on an average once a year, but some much more frequently than others.

Aurora, Indiana, July 10, 1880.

JAMES R. VAIL.

It is agreed that the foregoing statement of James R. Vail shall be taken and considered as a part of the testimony of James R. Vail in the above cause.

July 10, 1880.

W. S. HOLMAN,
Def't's Attorney.

94 *Testimony on the Part of Complainant.*

Testimony on the part of complainant, taken before Charles C. Linthicum, notary public in and for the county of Cook and State of Illinois, at the office of Messrs. Banning & Banning, rooms 60 and 61 Honore building, Chicago, Illinois, by agreement of counsel, the 21st day of March, A. D. 1881.

Present: Thomas A. Banning, Esq., of counsel for complainants.

Counsel for complainants offers in evidence—

1. A certified copy of all assignments of record under letters patent No. 42580, the certificate of the Patent Office thereto being dated the 24th day of March, A. D. 1879, and the same is marked "Complainant's Exhibit Gottfried Assignments."

2. A certified copy of an assignment and agreement under patent No. 42580, signed by Matthew Gottfried, John F. T. Holbeck, and John H. Stromberg, dated December 15, 1879, and recorded in the Patent Office in Liber F 25, page 161.

3. A certified copy of an assignment under said patent No. 42580 from John F. T. Holbeck to Matthew Gottfried, dated May 1, 1879, and recorded in the Patent Office May 9, 1879, in Liber W 23, page 324.

COMPLAINANT'S EXHIBIT GOTTFRIED ASSIGNMENTS.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of all assignments of record under letters patent No.

42580, recorded in the volumes as stated upon the margin of each copy, respectively, and that said annexed copies have been compared by me with the originals, and that they are correct transcripts therefrom and of the whole of the originals.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this twenty-fourth day of March, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[L. S.] W. H. DOOLITTLE,
Acting Commissioner.

In consideration of five dollars to me in hand paid, and in consideration of a royalty of ten dollars per machine, to be paid to me by John F. T. Holbeck, of the city of Chicago, for every machine for pitching barrels manufactured by said Holbeck, or any of associates that he may have, under the letters patent of the United States granted to me and to said Holbeck, number 42580, dated May 3d, 1864, I do hereby sell, assign, transfer, and set over to said Holbeck and his assigns all my right, title, and interest in and to the said letters patent and the invention secured thereby, reserving to myself the right to revoke this assignment if the royalty herein reserved be not paid.

95 Witness my hand and seal this 19th day of December, A. D. 1870.

MATHEW GOTTFRIED. [L. S.]

I agree to the foregoing and warrant to pay the royalty therein reserved.

Witness my hand and seal this 19th day of December, A. D. 1870.

JOHN F. T. HOLBECK. [L. S.]

In presence of—
W. F. WHITEHOUSE.

Liber R 13, p. 278. Recorded Jan. 6, 1871.
Ex'd: S. P. P., L. P. H.

Assignment.

Whereas John F. T. Holbeck and Matthew Gottfried, both of Chicago, in the county of Cook and State of Illinois, did obtain letters patent of the United States for their new and useful improvement in mode of pitching barrels, which letters patent are dated the third day of May, A. D. 1864, and numbered 42580; and whereas I, John F. T. Holbeck, above named, did, by reason of an assignment duly recorded in the records of transfers of the U. S. Patent Office, obtain all the right, title, and interest of the said Matthew Gottfried in the said letters patent; and whereas Charles F. Smith and Henry C. Comegys, both of the city and county of Baltimore, in the State of Maryland, are desirous of acquiring an interest in the said letters patent:

Now, this indenture witnesseth: That for and in consideration of five hundred dollars to me in hand paid, receipt of which I hereby

acknowledge, I have sold, assigned, and set over, and I do hereby sell, assign, and set over, unto the said Smith and Comegys an undivided two-thirds of all my right, title, and interest in and to the above-said letters patent, the same to be held by the said Smith and Comegys the same as it would have been held and enjoyed by me if this assignment and sale had not been made.

Witness my hand and seal this third day of January, 1871.

JOHN F. T. HOLBECK. [L. S.]

Signed, sealed, and delivered in presence of—
W. F. WHITEHOUSE.

Liber R 13, p. 279. Recorded Jan. 6, 1871.
Ex'd: S. P. P., L. P. H.

Whereas John F. T. Holbeck and Matthew Gottfried, both of Chicago, Cook county, Illinois, did obtain letters patent of the United States for their improved mode of pitching barrels, dated the 3rd day of May, 1864, and numbered 42580; and whereas Louis Schulze, of Louisville, Jefferson county, Kentucky, did obtain letters patent of the United States for his improvement in apparatus for pitching barrels, dated the 30th day of August, 1870, and numbered 106,964; and whereas Alexander A. C. Klaucke, of Washington, in the District of Columbia, did obtain letters patent of the United States for his improvement in apparatus for pitching barrels, dated the 20th day of December, 1870, and numbered 110,373; and whereas we, Charles F. Smith and Henry C. Comegys, both of Baltimore, Maryland, and John F. T. Holbeck, of Chicago, Illinois, by reason of certain assignments duly recorded in the records of transfers of the United States Patent Office, did obtain all the right, title, and interest in and to the above-named patents to Holbeck and Gott-
96 fried and to Klaucke, and an undivided one-third interest in and to the above-named patent of Schulze; and whereas "The Barrel Pitching Machine Company of Baltimore City" is desirous of obtaining all our interest, right, and title in the above-named patents:

Now, this indenture witnesseth: That for and in consideration of one dollar to us in hand paid, receipt of which we hereby acknowledge, and for other valuable considerations, we have sold, assigned, and set over, and we do hereby sell, assign, and set over, unto "The Barrel Pitching Machine Company of Baltimore City" all our right, title, and interest in and to the above-named patents, the same to be held and enjoyed by the said company as fully and entirely as they would have been held by us if this assignment and sale had not been made, with the exception that the said company shall not assign to any one but ourselves any or all the interest in and to the above-named patents in the proportion as they are now held by us, this assignment to hold good until the dissolution or liquidation of the said company, when the said company shall reassign to us in the same proportions as now assigned by us.

Witness our hands and seals this 25th day of January, 1871.

CHARLES F. SMITH. [L. S.]
H. C. COMEGYS. [L. S.]

Witnesses to signature of Smith and Comegys—
C. H. FITZGERALD.
HARRY DOYLE.

JOHN F. T. HOLBECK. [L. S.]

Witness to signature of Holbeck—
MATTHEW GOTTFRIED.
JOHN UEBELMESSER.

Liber W 13, p. 38. Recorded Jan. 28, 1871.
Ex'd: L. P. H., S. P. P.

Whereas John F. T. Holbeck and Matthew Gottfried, both of Chicago, Cook county, Illinois, did obtain letters patent of the United States for their improved mode of pitching barrels, dated the 3rd day of May, 1864, and numbered 42580; and whereas Louis Schulze, of Louisville, Jefferson county, Kentucky, did obtain letters patent of the United States for his improvement in apparatus for pitching barrels, dated the 30th day of August, 1870, and numbered 106,964; and whereas Alexander A. C. Klaucke, of Washington, in the District of Columbia, did obtain letters patent of the United States for his improvement in apparatus for pitching barrels, dated the 20th day of December, 1870, and numbered 110,373; and whereas, by virtue of certain assignments duly recorded in the records of transfers of the United States Patent Office, Charles F. Smith and Henry C. Comegys, both of Baltimore city, Maryland, and the said John F. T. Holbeck, of Chicago, did obtain all the right, title, and interest in and to the above-named patents to Holbeck and Gottfried and to Klaucke, an undivided one-third interest in and to the above-named patent to Schulze; and whereas, by a certain assignment dated the 25th day of January, 1871, and recorded in the said book of transfers of said Patent Office, the said Smith, Comegys, and Holbeck assigned all their interest in said two patents of Holbeck and Gottfried and of Klaucke, and in and to said one undivided third interest of said patent of Schulze, to "The Barrel Pitching Machine Company of Baltimore City;" and whereas it has been deemed proper that these presents should be executed in order more fully and completely to vest in said company the title to said two patents and to said one-third interest in the Schulze patent:

97 Now, therefore, in consideration of the premises, and of the sum of one dollar to the grantors herein paid by the said "The Barrel Pitching Machine Company of Baltimore City," and for divers other good and valuable considerations, the said Charles F. Smith, Henry C. Comegys, and John F. T. Holbeck do hereby sell, assign, and set over unto the said "The Barrel Pitching Machine Company of Baltimore City" all the right, title, interest, and estate of them, the said Smith, Comegys, and Holbeck, in and to the said patents issued to Holbeck and Gottfried, and to Klaucke, and

to the one undivided third interest in the patent issued to Schulze, the same to be held and enjoyed by the said corporation as fully and completely as they would have been held by the said grantors above named had this assignment not been made, with the exception, however, that said corporation shall not assign any or all of any part of the interests hereby assigned in said patents to any other person or persons except the grantors herein named in proportion to their several and respective interests in the same as held by them before any assignment to said corporation; and provided also that this assignment shall continue in full force until the dissolution of said company, in which event, or in the event of the liquidation of the affairs of said company, the several interests of each grantor in said patents shall, subject to the lawful rights of the creditors of said corporation, be reassigned to each grantor.

Witness our hands and seals this first day of June, 1871.

JOHN F. T. HOLBECK. [L. S.]
CHARLES F. SMITH. [L. S.]
H. C. COMEGYS. [L. S.]

Witness:
VICTOR CLOUD.
HARRY DOYLE.

Liber G 14, p. 257. Recorded June 8, 1871.
Ex'd: S. P. P., L. P. H.

Whereas letters patent of the United States were duly granted to me, Matthew Gottfried, and John F. T. Holbeck, dated May 3, 1864, No. 42580, for "mode of pitching barrels;" and whereas I, the said Matthew Gottfried, did on the nineteenth day of December, A. D. 1870, sell, assign, and set over to said John F. T. Holbeck all my right, title, and interest in said letters patent and the invention secured thereby, in consideration of a royalty to be paid to me of ten dollars per machine for every machine for pitching barrels manufactured by said Holbeck, or any associates that he might have, under said letters patent, I reserving to myself the right to revoke the said assignment if the royalty therein secured was not paid; and whereas sundry of said machines for pitching barrels have been manufactured by the said Holbeck and his associates upon which no royalty has been paid, but said Holbeck has neglected and refused to pay said royalty upon any or either of said machines:

Now, therefore, in consideration of the premises, I, the said Matthew Gottfried, do hereby evoke and rescind the said agreement and assignment and declare the said interest in said letters patent reinvested in me as if the said assignment had not been made.

Given under my hand and seal this 25th day of March, in the year one thousand eight hundred and seventy-five.

MATTHEW GOTTFRIED. [SEAL.]

In the presence of—
STEPHEN A. GOODWIN.
HENRY S. TOWLE.

STATE OF ILLINOIS, }
Cook County, City of Chicago, } ss:

On this 25th day of March, A. D. 1875, before me, John H. 98 Whipple, a notary public in and for said city, in the county and State aforesaid, personally appeared Matthew Gottfried, personally known to me and by me known to be the person who signed the foregoing instrument in writing, and acknowledged to me that he had executed the same freely and voluntarily for the purposes therein stated.

Witness my hand and seal the day and year above written.

[L. S.] JOHN H. WHIPPLE.
Notary Public.

Liber E 19, p. 55. Recorded March 29, 1875.
Ex'd: S. P. P. L. P. H.

This agreement, made this twenty-seventh day of October, 1875, between John F. T. Holbeck, of Chicago, Ill., of the first part, and John H. Stromberg, of Baltimore city, Md., of the second part, witnesseth: That in consideration of the sum of one thousand dollars paid to the said John F. T. Holbeck by John H. Stromberg the said John F. T. Holbeck does sell, assign, and set over to the said John H. Stromberg one undivided half of his rights and titles in his letters patent bearing date May third, 1864, and numbered 42580; and it is further agreed that the two parties named within shall make articles of copartnership, and the said John H. Stromberg shall furnish capital to carry on said business of manufacturing pitching machines as described in said letters patent.

JOHN F. T. HOLBECK. [SEAL.]

Wit.:
MARTIN KRATT.

Liber R 19, p. 333. Recorded Nov. 6, 1875.
Ex'd: L. P. H., S. P. P.

BALTIMORE, *Dec. 9th*, 1875.

At a meeting of the directors of the Barrel Pitching Machine Company of Baltimore City, held this day, were present Charles F. Smith, John F. T. Holbeck, and Wm. A. Fisher, being a majority of the directors named in the articles of incorporation. On motion, Charles F. Smith was called to the chair, and Wm. A. Fisher was appointed secretary. It was then, on motion, resolved that all the right, title, and interest of the said company in and to certain letters patent of the United States, dated May 3, 1864, No. 42580, for a new mode of pitching barrels, granted to Holbeck, and Gottfried under an assignment from Charles F. Smith, Henry C. Comegys, and John F. T. Holbeck, dated January 25, 1871, and recorded in the records of the Patent Office January 28, 1871, be assigned and conveyed to the said Smith, Comegys, and Holbeck for the sum of five hundred dollars, agreeably to the condition contained in the assignment last aforesaid, that the said company shall not assign to any one but said Smith, Comegys, and Holbeck, the inducement to

the present assignment being, in addition to the said money consideration, that since the execution of said assignment to said company the invention therein patented had not been manufactured or sold nor have the said company any present purpose of manufacturing or selling the same. It was further resolved that Charles F. Smith be, and is hereby, directed to execute and deliver to the said Charles F. Smith, Henry C. Comegys, and John F. T. Holbeck the assignment above mentioned in the foregoing resolution on behalf
99 of the Barrel Pitching Company of Baltimore City on receiving from the said parties the sum of five hundred dollars.

CHARLES F. SMITH,
Chairman.

WILLIAM A. FISHER,
Sec. Pro Tem.

Liber I 20, p. 84. Recorded Mar. 9, 1876.
Ex'd: L. P. H., H. M. L.

Know all men by these presents that the Barrel Pitching Machine Company of Baltimore City, for and in consideration of the sum of five hundred dollars to it paid by Charles F. Smith, John F. T. Holbeck, and Henry C. Comegys, have granted and assigned, and by these presents do grant and assign, unto the said Smith, Comegys, and Holbeck all of the right, title, and interest of the said company in and to certain letters patent of the United States, dated May 3d, 1864, No. 42580, to John F. T. Holbeck and Matthew Gottfried, for mode of pitching barrels.

In testimony whereof and in pursuance of a resolution passed by said company on the 9th day of December, 1875, a copy of which is appended hereto, the said Charles F. Smith hath hereto set his hand as the act of the said company this eleventh day of December, 1875.

CHARLES F. SMITH,
Pres't Barrel Pitching Co.

Witness:

——— ———.

Liber I 20, p. 86. Recorded Mar. 9th, 1876.
Ex'd: L. P. H., H. M. L.

Know all men by these presents that I, Charles F. Smith, for and in consideration of the sum of five hundred dollars to me in hand paid by John F. T. Holbeck, do grant and assign all my right, title, and interest in and to letters patent of the United States, dated May 3d, 1864, No. 42580, to Jno. F. T. Holbeck and Matthew Gottfried, for a new mode of pitching barrels.

Witness my hand this 11th day of December, in the year 1875.

CHARLES F. SMITH.

Witness:

——— ———.

Liber I 20, p. 86. Recorded Mar. 9, 1876.
Ex'd: L. P. H., H. M. L.

PHILADELPHIA, *June 7th*, 1876.

Know all men by these presents that I, the underwriter, in coneration of the sum of fifty dollars to me in hand paid by John H. Stromburg, of the city of Baltimore, Md., do hereby sell, assign, and set over to John H. Stromburg all my rights, titles, and interests in the letters patent bearing date May 3d, 1864, and number 42580.

In witness thereof I set my hand and seal this day, Philadelphia, June 7th, 1876.

H. C. COMEGYS. [SEAL.]

Witness:
WALTER BOSWELL. [SEAL.]

Liber S 20, p. 389. Recorded Aug. 30th, 1876.
Ex'd: S. P. P., L. P. H.

Know all men by these presents that we, John F. T. Holbeck, Matthew Gottfried, and John H. Stromberg, jointly interested in certain letters patent of the United States for a new mode of pitching barrels, dated May 3rd, 1864, No. 42580, have appointed John H. B. Latrobe, of the city of Baltimore, in the State of Maryland, our attorney, with authority to commence and prosecute, in any court of competent jurisdiction, suits at law or equity against infringers of said letters patent, and to compromise or adjust
100 the same, with power to employ such local counsel as he may consider advisable; and it is understood that all expenses, costs, and charges, including counsel fees attending the litigation, if any, shall be deducted from the collections aforesaid, and the balance paid over to the parties hereto in the proportion of their interest in the said patents; and particularly it is understood that the said John H. Stromberg shall be paid out of said collections, as fast as made, all monies that he may have advanced in the prosecution of claims under said letters patent. Nothing herein contained is to be taken as requiring said John H. B. Latrobe to make advances in the execution of his agency in this behalf.

In testimony whereof the parties hereto have set their hands and seals this ninth day of October, in the year 1876.

JOHN F. T. HOLBECK. [SEAL.]
M. GOTTFRIED. [SEAL.]
J. H. STROMBERG. [SEAL.]

Liber W 21, p. 85. Recorded May 22nd, 1877.
Ex'd: L. P. H., S. P. P.

Whereas we, Matthew Gottfried and John F. T. Holbeck, of Chicago, Illinois, with John H. Stromberg, of Baltimore, Maryland, by a certain instrument in writing or letter of attorney bearing date the ninth day of October, 1876, and recorded on the 22d day of May, A. D. 1877, in the Patent Office, at Washington, in Liber W 21, page 85, did appoint John H. B. Latrobe, also of Baltimore, our true and lawful attorney to commence and prosecute suits and compromise and adjust claims for infringement, and otherwise to act for us and represent our interests in reference to letters patent of the

United States No. 42580, granted to us on the third day of May, A. D. 1864, for an improved mode of pitching barrels, as by the said instrument or letter of attorney, reference being thereto had, will fully appear:

Now, therefore, we, the said Matthew Gottfried and John F. T. Holbeck, have recalled, revoked, countermanded, and made void, and by these presents do recall, revoke, countermand, and make void, to all intents and purposes, the said power of attorney and all powers and authority thereby given to the said John H. B. Latrobe and all acts and things which shall or may be done by virtue thereof in any manner whatsoever.

In witness whereof we have hereunto set our hands and seals this 25th day of June, A. D. 1878.

MATTHEW GOTTFRIED. [SEAL.]
JOHN F. T. HOLBECK. [SEAL.]

STATE OF ILLINOIS, } ss:
Cook County, }

I, Arnold Tripp, a notary public in and for said county, in the State aforesaid, hereby certify that Matthew Gottfried and John F. T. Holbeck, personally known to me to be the same persons whose names are subscribed to the foregoing instrument in writing, appeared before me this day in person and acknowledged that they signed, sealed, and delivered the said instrument as their free and voluntary act for the uses and purposes therein mentioned.

In testimony whereof I have hereunto set my hand and notarial seal this 25th day of June, 1878.

[L. S.] ARNOLD TRIPP,
Notary Public.

Liber X 22, p. 417. Recorded June 28, 1878.
Ex'd: L. P. H., S. P. P.

101 Whereas at a meeting of the directors of the Barrel Pitching Machine Company of Baltimore City held on the ninth day of December, A. D. 1875, it was resolved that all the right, title, and interest of the said company in and to certain letters patent of the United States, dated May 3, 1864, No. 42580, granted to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, under an assignment from Charles F. Smith, Henry C. Comegys, and John F. T. Holbeck, dated January 25, 1871, and recorded in the records of the Patent Office January 28, 1871, should be assigned and conveyed back to the said Smith, Comegy, sand Holbeck, for the sum of five hundred dollars, agreeably to the condition contained in the assignment last aforesaid, that the said company should not assign to any one but the said Smith, Comegys, and Holbeck, and that the said Charles F. Smith should be and was thereby directed to execute and deliver to the said Smith, Comegys, and Holbeck, on behalf of said company, on receiving from them the said sum of five hundred dollars, which resolutions were duly recorded in the Patent Office, at Washington, on the ninth day of

March, A. D. 1876, and are hereby referred to and made a part of this instrument;

And whereas the said Charles F. Smith, in pursuance of said resolutions, executed a certain instrument in writing dated the eleventh day of December, A. D. 1875, and recorded on the ninth day of March, A. D. 1876, which instrument, however, failed to meet the purposes and carry out the objects of said resolutions:

Now, therefore, in consideration of the premises and of the said sum of five hundred dollars, and the further sum of one dollar in hand paid, the receipt whereof is hereby acknowledged, and in pursuance of said resolutions, and by virtue of its general powers, the said The Barrel Pitching Machine Company of Baltimore City do hereby sell and assign unto the said Charles F. Smith, Henry C. Comegys, and John F. T. Holbeck all the right, title, and interest of said company in and to letters patent of the United States No. 42580, dated May 3, 1864, granted to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, and in and to all claims of every kind for the past infringement of said letters patent, and all rights of action whatever arising out of or connected with said infringements, the same to be held, enjoyed, and collected by the said Smith, Comegys, and Holbeck to the full end of the term for which said letters patent are granted or may be extended as fully and entirely as the same would have been held and enjoyed by this company if this assignment and sale had not been made.

In testimony whereof the said The Barrel Pitching Machine Company of Baltimore City has signed these presents in its corporate name and affixed its seal thereto at Baltimore, Maryland, this twenty-fourth day of February, A. D. 1879.

THE BARREL PITCHING MACHINE
COMPANY OF BALTIMORE CITY,
By CHARLES F. SMITH, *President.* [SEAL.]

Witness—the words "one dollar" first interlined:
W. L. AMOSS.

Liber Y 23, page 178. Recorded Mar. 7, 1879.
Ex'd: M. A. L.

In consideration of fifty dollars to me in hand paid by John F. T. Holbeck, of Chicago, Illinois, the receipt whereof is hereby
102 acknowledged, I hereby sell and assign to the said John F. T. Holbeck all my right, title, and interest in and to letters patent of the United States No. 42580, dated May 3, 1864, granted to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, and in and to all claims of every kind for the past infringement of said letters patent, and all rights of action whatever arising out of or connected with such infringements, the same to be held, enjoyed, and collected by the said Holbeck to the full end of the term for which said letters patent are granted or may be extended as fully and entirely as the same would have been held

and enjoyed or collected by me if this assignment and sale had not been made.

In testimony whereof I have hereunto set my hand and seal this twenty-sixth day of February, A. D. 1879.

HENRY C. COMEGYS. [SEAL.]

Witness:
D. H. LEWIS.

Liber Y. 23, p. 180. Recorded Mar. 7, 1879.
Ex'd: M. A. L.

In consideration of three hundred dollars and other good and valuable considerations to me in hand paid by John F. T. Holbeck, of Chicago, Illinois, the receipt whereof is hereby acknowledged, I hereby sell and assign to the said John F. T. Holbeck, all my right, title, and interest in and to letters patent of the United States No. 42580, dated May 3, 1864, granted to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, and in and to all claims of every kind for the past infringement of said letters patent, and all rights of action whatever arising out of or connected with said infringements, the same to be held, enjoyed, and collected by the said Holbeck to the full end of the term for which said letters patent are granted or may be extended as fully and entirely as the same would have been held, enjoyed, or collected by me if this assignment and sale had not been made.

In testimony whereof I have hereunto set my hand and seal this 24th day of February, A. D. 1879.

CHARLES F. SMITH. [SEAL.]

Witness—the words three hundred dollars being first interlined—
W. L. AMOSS.

Liber Y 23, page 180. Recorded Mar. 6, 1879.
Ex'd: M. A. L.

COMPLAINANTS' EXHIBIT STROMBERG ASSIGNMENT.

Know all men by these presents that I, John H. Stromberg, of the city of Baltimore, in the State of Maryland, in consideration of the sum of five thousand dollars, have assigned and set over unto Matthew Gottfried, of Chicago, all my right, title, and interest in and to letters patent of the United States No. 42580, dated May 3rd, 1864, to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, and in and to all claims of every kind or nature for past infringements of said letters patent, and all rights of action whatsoever arising out of or connected with said infringements, and commonly known as back damages arising
103 out of or connected with said infringements; the same to be held and enjoyed by the said Matthew Gottfried to the full end and term for which said letters patent were granted or may be extended as fully and entirely as the same would have been held and enjoyed or collected by me if this assignment and sale had not been made.

And whereas the said John H. Stromberg has heretofore disposed of rights and licenses under the said letters patent as a part owner under mesne assignment of the same, and has caused suits to be instituted against infringers in the city of New York and the city of Baltimore, and has made sundry collections on account thereof, and has employed counsel in both of said cities for that purpose, to wit, General Samuel A. Duncan, in the city of New York, and John H. B. Latrobe, in the city of Baltimore; and whereas it is a part of the consideration of the present assignment that the said John H. Stromberg shall be released from all claim which the said Matthew Gottfried or the said John F. T. Holbeck or either of them or any person to whom the said Holbeck and Gottfried or either of them may have assigned an interest in said letters patent might or could have against him, the said John H. Stromberg, or his counsel aforesaid or against the said John H. B. Latrobe, attorney for the parties interested in said letters patent, for or by reason of any collections heretofore made by the said Stromberg or the said Duncan or Latrobe or against any person or persons to whom the said Stromberg or the said Latrobe may have granted licenses to use the said patented improvement:

Now, therefore, the said Matthew Gottfried and the said John F. T. Holbeck, the said Holbeck uniting herein for the purpose of carrying out the agreement aforesaid, for and in consideration of the premises, have released, and by these presents do hereby release, the said John H. Stromberg from all claim that they or either of them might or could have against the said Stromberg for or by reason of any collection he may have made from parties to whom he or his attorneys, the said Duncan and Latrobe, may have granted licenses to use the said patented improvement, hereby ratifying and confirming all such licenses and all the acts of the said Stromberg and his attorneys in the premises.

And the said Matthew Gottfried doth hereby covenant and agree that he will save harmless the said Stromberg and his attorneys from all claims that may be made against them or either of them for or by reason of any interest which the said Gottfried and Holbeck or either of them may have given to any other party in the said letters patent; and the said Gottfried, for himself, as assignee of the said letters patent, doth hereby assume the conduct and responsibilities of the litigation already commenced in New York and Baltimore, and to save harmless the said Stromberg on account thereof; and it is further agreed that the said Stromberg shall have the privilege of selling six machines that he has on hand without liability to the parties hereto.

In testimony whereof the said John H. Stromberg, Matthew Gottfried, and John F. T. Holbeck have hereto set their hands and seals this 15th day of December, in the year 1879.

MATTHEW GOTTFRIED. [L. S.]
JOHN F. T. HOLBECK. [L. S.]
J. H. STROMBERG. [L. S.]

Witness as to the signature of Matthew Gottfried and John F. T. Holbeck—

THOMAS A. BANNING.

Witness as to the signature of John H. Stromberg—

JNO. H. B. LATROBE.

104 This paper has been executed with the understanding that in lieu of six machines twenty may be sold by Stromberg.

January 24th, 1880.

BANNING & BANNING,
Attorneys for Gottfried & Holbeck.
JNO. H. B. LATROBE,
Attorney for Stromberg.

Liber F 25, p. 161. Recorded Feb. 17, 1880.
Ex'd: F. C. T.

105 *Copy Holbeck Assignment, Page 3, B. & B.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an assignment from J. F. T. Holbeck to M. Gottfried, recorded in Liber W 23, page 324, and that said annexed copy has been compared by me with the original, and that it is a correct transcript thereof and of the whole of said original.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this fifth day of February, in the year of our Lord one thousand eight hundred and eighty-one, and of the Independence of the United States the one hundred and fifth.

E. M. MARBLE,
Commissioner.

Liber W 23, p. 324.

In consideration of one dollar and other good and valuable considerations to me in hand paid by Matthew Gottfried, of Chicago, Illinois, the receipt whereof is hereby acknowledged, I hereby sell and assign to the said Matthew Gottfried all my right, title, and interest in and to letters patent of the United States No. 42580, dated May 3, 1864, granted to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, and in and to all
106 claims of every kind for the past infringement of said letters patent, and all rights of action whatever arising out of or connected with such infringement.

The same to be held, enjoyed, and collected by the said Matthew Gottfried to the full end of the term for which said letters patent are granted or may be extended as fully and entirely as the same would have been held and enjoyed or collected by me if this assignment and sale had not been made.

In testimony whereof I have hereunto set my hand and seal this first (1st) day of May, A. D. 1879.

JOHN F. T. HOLBECK. [SEAL.]

Witness:
O. P. INGERSOLL.

Recorded May 9, 1879.
Ex'd: H. M. H., E. A. M.

107 ALVARO B. GRAHAM, a witness produced, sworn, and examined on the part of the complainant, deposed and testified as follows:

Direct examination by Mr. BANNING:

Q. 1. Please state your name, age, occupation, and place of residence.

A. My name is Alvaro B. Graham; fifty-one years; Chicago. I am not in any special business at the present time.

Q. 2. State what experience, if any, in the examination of letters patent and in testifying as an expert in patent cases you have had.

A. I have had something like thirty years' experience as a mechanic and in mechanical pursuits, and have obtained four patents on my own inventions. I have had some experience in the examination of specifications and drawings of patents, and consider myself capable of understanding such papers when they relate to ordinary inventions. I have testified as an expert in some fifteen or twenty patent cases.

Q. 3. State whether you have examined the specifications and drawings of patent No. 42580, sued on in this cause, and whether you understand the invention therein described and claimed.

A. I have examined that patent and understand the invention therein described and claimed.

Q. 4. Please state in what the invention described and claimed in such patent consists.

A. I cannot do this better than in substantially the word of Judge Dyer in his opinion in the Chicago and Milwaukee cases. It is a new and useful improvement in heating barrels or casks for the purpose of pitching them, embodied in a mechanism consisting of several parts, which are so arranged and connected as to produce a hot blast composed of such elements or chemical constituents as will heat the cask or barrel sufficiently to allow it to be quickly and thoroughly pitched, and yet not subject it to such a degree and quality of heat as will produce combustion and destroy or injure the barrel.

Q. 5. I will now read you the description of the defendant's machine given in the deposition of James R. Vail, taken in this cause, and ask you whether, in your opinion, it is an infringement of the patent sued on in this case. You may limit your answer to the second machine described by the witness Vail, as complainant does not intend in this case to seek to recover for any other machine.

Objection. Objected to as incompetent.

A. I find in the description of James R. Vail a machine composed of the following elements: A furnace, fan blower, and detachable pipe, combined substantially as described and claimed in complainant's patent. The operation is as follows: The blast produced by the blower is conveyed to the furnace through a connecting pipe; passing upward through the fire in the furnace, it becomes heated on its passage and is discharged through the detachable pipe into the kegs, thereby heating their internal surfaces for the purpose of pitching them. I find, therefore, that both in combination and operation the defendant's machine is precisely like the machine described and claimed in complainant's patent, and, in my opinion, the machine described is a clear infringement of the first two claims of the patent sued on.

ALVARO B. GRAHAM.

108 It is stipulated by counsel that the following cross-examination of this witness, as contained in his deposition in the suit of this complainant against Christian Moerlein, now pending in the circuit court of the United States for the southern district of Ohio, may be used as his cross-examination in this cause.

Q. 9. When were you last engaged in any business, and what was that business?

A. The last business engagement I was in was in the fore part of this winter, when I was engaged for a short time for Mr. Gottfried and also for Holbeck & Lehmpuhl.

Q. 10. In what capacity was you engaged—in what work?

A. For Holbeck & Lehmpuhl, I was soliciting orders for their pitching machine; and for Mr. Gottfried, I was looking up infringing machines where he had brought suits, determining whether the machines used by parties he had sued were infringements or otherwise.

Q. 11. Were you soliciting these orders on commission?

A. I was.

Q. 12. These pitching machines for which you were soliciting orders were marked and sold as made under the Gottfried & Holbeck patent, were they?

A. Yes, sir; at least I so understood that they were made under that patent.

Q. 13. The Gottfried & Holbeck for whom you were acting were the patentees and parties complainant herein, are they?

A. They were the patentees. I do not know that Mr. Holbeck is one of the complainants. I suppose that Mr. Gottfried is one of the parties complainant.

Q. 14. How were these machines, manufactured by Holbeck, constructed? Describe them specifically.

A. The fire chamber was an iron cylinder or drum lined up with fire-clay tubing burned the same as fire brick; the fan blower was what is known as the Root blower, with a section of gas pipe connecting it to the fire chamber near the bottom. For large casks they used a large discharge pipe, substantially like the one shown in the drawing, figure 1, and for small kegs they used small pipes.

Q. 15. The blast pipe from the fan entered the bottom of the cylinder or drum beneath the grate, did it?

A. It did; yes, sir.

Q. 16. Was the opening through which it communicated with the drum vertical or horizontal?

A. I think it was vertical. I never have set up one of them, and am not as familiar with them as I would be if I had set them up. They are mounted on trucks.

Q. 17. Is this description you have given a correct description of all the pitching machines sold by Gottfried or Holbeck now or in the past, so far as your information goes?

A. I should answer by stating that substantially it is, although Holbeck has made machines of various forms, I understand.

Q. 18. In what respects, if any, have the machines made by Holbeck or Gottfried, which you have seen, differed from the description you have just given?

A. I have seen one machine, which I was informed was made by Holbeck, made in the form of a globe in two parts uniting about in the center of the globe horizontally and hinged together, the blower pipe entering vertically at the bottom, the discharge pipes being attached to the upper section of this globe. This furnace
109 was mounted on an iron stool or pedestal, made with a circular hole in the top, and supported, I think, on four legs. I believe that is the only one besides the one I first described that I have seen that differs materially in general construction from my first description.

Q. 19. How long have you been acquainted with Gottfried and Holbeck and with the pitching machines manufactured by them or either of them?

A. I have known those gentlemen for two years, or about that time, according to the best of my recollection, and I have been acquainted with the pitching machine. I should say, something less than that time. As I understand it, Mr. Gottfried has never manufactured the machine. The machines have been manufactured by Mr. Holbeck.

Q. 20. In what business were you engaged in before you began to solicit orders for the Holbeck machine?

A. I was in the harvesting machinery trade or business last, before my engagement before spoken of.

Q. 21. When was this, and in what capacity?

A. It was in the summer of 1880, both as a salesman and in a mechanical capacity.

Q. 22. In what mechanical capacity?

A. In adjusting and making such little alterations as is quite often found necessary in machines after they have left the factory.

Q. 23. That is, such adjustments in putting together the machine as was incident to your business as salesman, is it?

A. Mainly that. Some of those adjustments, however, or alterations would be very difficult of accomplishment by parties having no mechanical qualifications.

Q. 14. How were you engaged prior to this time?

A. In the year 1879 I was engaged with the same company and in the same capacity, and for the last four or five years previous to that I was engaged in manufacturing, handling, selling, and adjusting as an expert self-binding harvesters for Walter A. Wood & Co., of Hoosic Falls, New York.

Q. 25. During this five years last referred to was your position that of salesman or that of an employee in the shop?

A. The first few months of that time I worked in the shops constructing the machine spoken of for the purpose of thoroughly familiarizing myself with its mechanical construction, for the purpose of becoming an expert in the adjusting, handling, and repairing the machine on the market or in the field. During a portion of the season I acted in the capacity of a salesman, and during the remainder of the time as a mechanical expert. Previous to this engagement I was engaged with D. M. Osburne & Co., of Auburn, New York, and had charge of the mechanical department of their business at their Chicago branch house. Previous to that engagement—from the spring of 1862—I was engaged in harvesting machinery business for myself.

Q. 26. State definitely just what kind of work you did within those first few months you were with Walter A. Wood & Co., and also during the time when you say you were acting as an expert for that company.

A. During the first few months I was at work repairing and overhauling machines in their Chicago house, and Mr. Wood selected me out of the Western force to go to the factory at Hoosic Falls, New York, and assist in the building of an entirely new and unknown machine. It was a machine that was entirely unknown to the public. It was a machine that was patented by Mr. Locke, but had never been introduced to the public. I worked on this machine as a mechanic in the building of it at the factory. What I did as an expert was I went to the machines whenever they failed to operate satisfactorily and adjusted them, and taught others of the field force to make such adjustments as was often found necessary to make the machine operate satisfactorily, and in case of breakage—either in shipment, accident, or operation—I was usually sent to make the necessary repairs—that is, for the first year of the time spoken of. As the business increased in the latter years of course the expert force increased with it. I wish to be understood that I occupied that position as to the Chicago house.

Q. 27. Was the Chicago house of Osborne & Co., to which you referred, a saleshouse or a manufacturing establishment?

A. It was a saleshouse with quite a large repair department attached.

Q. 28. What experience have you had in manufacturing pitching machines, or in the use of such machines, or in the pitching of kegs and casks by any process?

A. I have had no experience whatever in the manufacturing or use of pitching machines or in pitching by any process.

Q. 29. Please state whether you understand the several claims of the Gottfried & Holbeck patent to be claims for the mechanism described and shown or claims for a process.

A. I understand them to be both.

Q. 30. By your last answer do you mean that you understand each claim to be a claim for a process without reference to the mechanism used, and also a claim for the mechanism without reference to the process for which it is used?

A. I understand the claims to be both mechanical and for a process. I cannot see how the distinction can be made here between the process and the mechanism. The third claim possibly might be construed as strictly mechanical.

Q. 31. This does not answer my question. Do you understand each claim to be at once a claim for the mechanism described without reference to the process for which it is used and a claim for a process without reference to the mechanism by which it is applied?

A. I should hardly consider it as broad as that.

Q. 32. Then you would not understand either of the claims to be infringed if the mechanism described was used for some other process or if the process was effected by some other mechanism, would you?

A. I can't understand how the mechanism could be used without producing the result intended here and I cannot well see how the process could be accomplished without substantially the mechanism provided for here.

Q. 33. Please name the several elements which you understand to constitute the mechanism embraced in each of the first two claims, respectively, and also the several steps which you understand to constitute the process embraced in the same claims, respectively.

A. I understand the elements to consist of a furnace, blowing apparatus, and the conducting pipes through which the blast is discharged into the cask or keg. I find the mechanism I have described set forth in the second claim. I find in the first claim
111 the language: The application of heated air under blast to the interior of casks by means substantially as described. I understand that, to refer back to the language of the specification, from which I will quote: "The fans *e e* create a blast of air through the furnace chamber A′; this air rushing through the opening *d*, and through the fire which is built upon the grate *a*, is allowed to escape through the passage *d′* near the top of the furnace." As I I understand it, that is the meaning of the words "by means substantially as described" in the first claim. I will again refer to the language of the specification relating to the second claim: "Between this passage *d′* and the cask which it is desired to heat I form a communication by means of a detachable pipe, E, which connects with the short pipe E′ that is secured around the passage *d*, as shown in figures 1 and 2." As I understand it, the process is the reduction of atmospheric air from its natural state to the heated products of combustion and its introduction into the interior of casks by the mechanical means specified.

Q. 34. As I understand you, then, a machine to infringe the first claim of this patent must contain in combination a furnace, a blowing apparatus, and a conducting pipe through which the blast is discharged. Now, in your opinion, would any machine having

these elements in combination embrace the invention recited in this claim?

Obj. Counsel for complainant objects to the question as being too general and not calling for the opinion of the witness as to a machine used for the purpose of pitching kegs or casks, but calling for the opinion of the witness as to the machine irrespective of the use to which it might be applied.

Obj. Counsel for defendant objects and protests against complainant's counsel suggesting and supplying answers for the witness while on cross-examination as irregular, as incompetent, and as depriving this proceeding of the character of an *inter partes* deposition.

A. As I understand that question, I should say that it was possible, in my opinion, for a machine combining those elements not to infringe the first claim of that patent.

Q. 35. You hesitated and delayed to answer this last question until the objection of complainant was entered upon the record in your hearing, did you not?

A. No, sir; I did not; I announced my readiness to answer that question when the notary first began to write that objection. I hesitated, perhaps, a space of thirty seconds—it might have been longer—I did not time it.

Q. 36. Wasn't your hesitation at least five minutes?

A. No, sir; it was not.

Adjourned till March 18, 1881, at 9 o'clock a. m.

MARCH 18, 1881—9 o'clock a. m.

Said parties met pursuant to adjournment.

Present: As before.

Q. 37. You have stated that you cannot understand how the mechanism embraced in these claims can be used "without producing the result intended here," and have named the elements recited in my last question as those which you understand to con-
112 stitute the mechanism embraced in these claims; if this is so, what do you mean by saying that a machine combining these elements might not infringe the first claim?

A. I mean to be understood that I do not profess to be able to pass an opinion upon all possibilities within man's capabilities. A machine might be constructed for some unknown purpose to me and not, perhaps, infringe that patent.

Q. 38. Then am I to understand you that the purpose for which the machine is used, apart from the construction of the machine and the mode of operation to which it is adapted or of which it is capable, is, in your opinion, an essential element of each of the claims of the patent?

A. Yes, sir; almost all of our inventions which are secured by patents are simply new or recombinations of old and well-known elements. A furnace for fire is *as* about as old as civilization, at least, and the fan blower is old; pipes are old; but I understand that the invention consists in the new combinations for the accom-

plishment of some new and useful purpose, hence my conclusion that it is possible for some mind to combine those elements for an entirely new and useful purpose and not infringe the claims of this patent.

Q. 39. I did not ask you about combinations or the effect of combinations. Assuming that the several elements you have named as constituting, when in combination, the invention here claimed—that is, the furnace, blowing apparatus, and discharge pipe—were combined so as to be capable of forcing the blast of air through the furnace and thence through the discharge pipe, heating the air on its passage by direct contact with the flame, would or would not such a machine embrace the invention which you understand to be secured by either or all of these claims, without reference to whether it was used for heating the pitch within beer casks or for some other purpose?

A. If for an entirely different purpose, I should say most clearly and emphatically that it would not; to hold otherwise would abrogate nine hundred and ninety-nine patents out of a thousand. This patent and all patents, I may say, claim the combination for the purpose and are sustained by the courts for the purpose.

Q. 40. Then you understand, do you, that the invention embraced in these claims would not be employed and that the claims would not be infringed by a machine exactly the same in construction and mode of operation and adapted to pitch casks in the same way, if that machine were used to heat the interior of other vessels than beer casks, do you?

A. I should not consider this patent infringed by the machine named in your question when used for an entirely different purpose than what this pitching machine was designed and patented for. For example, suppose a party in the mines should conceive the idea of extracting the precious metals from quartz rock by applying that intensely heated blast and he should succeed in it, thereby cheapening and simplifying the well-known means of obtaining those metals, I think he would be entitled to a patent for that purpose, and I believe farther that, notwithstanding the well-known existence of this machine for this purpose, the courts would sustain his patents for the new purpose. As I understand the object of the patent
113 law it is to encourage inventors in making inventions, and if an invention, in order for the patent to be sustained, must be entirely new in all of its parts and elements, it would destroy wholly the objects that the patent law aims to foster.

Q. 41. Now please answer my question.

A. If that machine were used for an entirely new and different purpose, in no way analogous to the pitching of beer kegs or casks, I should consider that it would not infringe the Gottfried & Holbeck patent.

Q. 42. Now please answer my question.

A. Same answer.

Q. 43. Do you decline to answer my question 40?

A. No, sir; I have answered your question.

Q. 44. There was nothing in my question about your views of the policy or construction of the Federal patent law, and nothing about the patentability of any imaginary process. I stated definitely a particular use to which I assumed a machine specifically described to be put. Instead of answering me as to whether such a machine put to the particular use I described would or would not embrace the invention of this patent you have given us a treatise on the policy of patent legislation, which, if to be published at all, I should prefer to have published at your expense and in a separate volume. I now ask you again, Would or would not, in your opinion, a machine exactly the same in construction and mode of operation, and adapted to pitch casks in the same way as that shown and described in the Gottfried & Holbeck patent, embrace the invention covered by that patent if that machine were used to heat the interior of other vessels than beer casks? Please answer directly, yes or no.

A. If the other vessels spoken of were heated by that machine for an entirely different purpose, I should say no.

Q. 45. Then am I to understand that, in your opinion, the invention claimed and embraced in this patent is not either the machine by itself or the process by itself apart from the machine, but the combination of elements which you have named operating together in the manner described for the purpose or object of pitching beer casks or similar casks, and that this invention is not used unless this combination of elements is employed for this particular object?

A. That is my opinion, sir.

ALVARO B. GRAHAM.

Complainant's counsel states that his *prima facie* evidence is now closed.

STATE OF ILLINOIS, } ss:
Cook County, }

I, Charles C. Linthicum, a notary public in and for said county, in the State aforesaid, hereby certify that all the proceedings aforesaid were had as stated in the cause named in the caption hereto; that I was attended by the counsel named in said caption at the time and place therein stated and by the witness, Alvaro B. Graham, who was of sound mind and lawful age; that said witness was first duly sworn to testify the truth, the whole truth, and nothing but the truth in said cause; that his deposition was reduced to writing in his presence and from his statements, and that after carefully reading the same over he subscribed the same in my presence as and for his deposition in said cause.

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I further certify that I am not solicitor or of counsel for either of the parties in said cause, nor in any way interested in the event of said cause, and that the witness resides more than one hundred miles from the place where said cause is pending.

In witness whereof I have hereunto set my hand and notarial seal this 24th day of March, A. D. 1881.

[SEAL.] CHARLES C. LINTHICUM,
Notary Public.

Testimony in the above-entitled cause taken on behalf of the complainants, by agreement of counsel, before Charles C. Linthicum, a notary public, at the office of Messrs. Banning & Banning, rooms 60 and 61, Honore building, Chicago, Illinois, Tuesday, June 28th, A. D. 1881, commencing at 10 o'clock a. m.

Present: Ephraim Banning, Esq., of counsel for complainants, and R. H. Parkinson, Esq., of counsel for defendants.

MATTHEW GOTTFRIED, a witness produced, sworn, and examined on the part of the complainants, deposes and testifies as follows:

Direct examination by Mr. BANNING:

Q. 1. State your name, age, occupation, and place of residence.

A. Matthew Gottfried; fifty-eight years; a brewer; Chicago, Illinois. I have a brewery here in Chicago and am manufacturing about 25,000 barrels of beer a year. I am complainant in this case and one of the patentees named in letters patent of the United States No. 42580, on which this suit is founded, and, of course, am one of the inventors of the improved mode of pitching barrels described and claimed in such patent.

Q. 2. State when the invention described and claimed in this patent was made, when and where it was first used, and how it operated.

A. It was in the latter part of 1862 or early part of 1863 when we made our first experiments. This experiment was made at Gottfried & Schoenhofen's Brewery, in this city, and this is the place where the machine was used first. The furnace part was masonwork, with an iron grate between the fire chamber and the ash pit. The first blower was a wooden one, on the principle of the old style of iron ones. There was a wooden pipe between the blower and furnace and an iron pipe between the furnace and the barrel or cask. The machine operated to our satisfaction, but we found that it was capable of being improved. It operated on the same principle as in the patent. The fire was built in the fire chamber above the grate, and the top was closed by a fire-brick tile; and right below the top was an outlet for the hot air, and at this outlet a piece of iron pipe was walled in and projected out about a foot. About two feet from this the cask was placed, and then the connection was completed by a removable pipe between the furnace and the cask, and so there was forced air through the fire into the cask. The cold air was introduced below the grate. The fireplace was about two feet and a half deep and twelve inches square, and there was about two feet of fire up to the outlet. The fuel we used was coke and hard coal used together, and afterwards we used only gas coke, because the latter gave a more intense heat and a cleaner fire.

115 Obj. So much of the foregoing answer as tends to elaborate or modify the invention described in complainant's patent is objected to as improper.

Q. 3. When was the machine above described first used in the practical work of pitching casks, and to what extent?

A. It was used in the early part of 1863, and we pitched about ten or twelve casks at that time, such casks holding about twelve to fifteen barrels each. The term "casks" as commonly used in the brewing business applies to vessels holding, say, ten barrels and upwards.

Q. 4. What changes were afterwards made in this machine, if any, and when, and to what extent was it afterwards used in the practical work of pitching?

A. The first change was from a wooden blower to an iron one, and the connection between the blower and furnace was made by an iron pipe, perfectly air tight, and so was the connection between the furnace and the cask. Then we made a so-called protecting plate, as shown in the drawings of the patent, figure 3. We lined the inside of the furnace itself with fire brick instead of common brick as before. These improvements were all made before the spring and the fall of 1863; and then in the fall, about the month of September, 1863, we commenced pitching casks again and found that our invention was fully a success. We pitched about forty to fifty casks of from twelve to thirty barrels at that time and during the fall and first part of the winter. We used that machine afterwards as often as we had need to pitch till I went out of partnership with Schoenhofen, in the month of September, 1867; I left the machine there at that time.

Q. 5. Then the machine was used for some four years while you remained at the brewery. Is that correct?

A. Yes, it is; and we pitched from fifty to seventy-five or eighty casks a year.

Q. 6. Then was that machine capable of practical and successful use in pitching?

A. Yes; it was to our whole satisfaction.

Q. 7. As I understand you, that machine was constructed according to the drawings of the patent except that the cold air was introduced below the fire?

A. That is correct.

Q. 8. Then, answering from your own actual knowledge and experience, do you consider that a machine constructed and operated according to the description of the patent is capable of practical and successful use in the pitching of barrels?

A. Do you mean when the cold air is introduced above the grate?

Q. 9. I mean when the machine is constructed and used according to the patent's description.

Obj. Objected to as incompetent because submitting to the witness a construction of the instrument as to its legal effect.

A. By my knowledge and experience I declare our invention as a full success for pitching purposes.

Q. 10. Are you familiar with the way in which pitching machines are used generally?

A. I am in every respect.

Q. 11. What is the object of pitching casks or kegs, and how long does it take to pitch an ordinary cask, say, holding thirty or forty barrels, and an ordinary keg, say, holding a quarter of a
116 barrel, as you use the machine at your own brewery?

A. The object is to cover the pores of the wood, avoiding a disagreeable taste to the beer and sweetening and smoothing the inside of the keg or cask. The time of pitching an ordinary cask is is from two to three minutes and a keg about fifteen to eighteen seconds. I am using generally a Gottfried and Holbeck machine, which is constructed with a cast-iron bottom resting on four wheels and a wrought-iron shell with a fire-brick cylinder inside and a cast-iron top and outlet for the hot air; in the center of the cast-iron bottom plate there is a two-and-a-half inch hole, to which the blower is connected by a gas pipe—two-and-a-half inch gas pipe.

Q. 12. Is the cold air introduced below or above the fire?

A. The cold air is introduced below the fire.

Q. 13. Is this the way it is introduced in all the different pitching machines used by brewers, except those which apply a superheated steam blast?

A. That is the way they are all constructed, with the exception of the superheated steam machine and one that is called Schlaudeman's machine; he has two pipes, one above and one below the fire, but they did not use the upper one very often.

Q. 14. Did you ever use a machine in which the air was introduced above the fire grate, and did you and Holbeck ever build any such machines?

A. I never used any where the air was introduced above the fire grate and we never built any of that kind.

Q. 15. State what efforts, if any, you and Holbeck made, after obtaining your patent, to introduce the invention to the brewing public?

A. After our patent was granted we sent out circulars to all the brewers, wherever we could get their address, throughout the whole United States. For that purpose I got the addresses of the brewers from the secretary of the Brewers' Association of the United States. We sent out at different times—say, first, in 1865, second, 1866, and third, about 1867 or 1868—to all the addresses of the brewers I could obtain from the secretary above mentioned or otherwise. Then we exhibited the machine at the brewers' convention in this city in 1867, where there were brewers from most all the States in this country; about two hundred and fifty to three hundred of them had been present when I was operating it.

Q. 16. Please state about how many circulars in all during the years mentioned you sent out.

A. We sent out at least three thousand by mail, besides what we handed to persons interested in the matter and what we put into the machines ordered and shipped to the purchasers.

Q. 17. Did you have any of those circulars present, and, if so, did you use them or present them to the brewers personally, at the time you exhibited the machine at the brewers' convention in 1867?

A. Yes; I presented them to every brewer I met there at the convention.

Q. 18. Look at this circular now shown you, printed in
117 both English and German, and, if you recognize it, state what it is.

A. It is a copy of the same I presented or we sent out by mail at the time I mentioned before.

Q. 19. Are you certain about its being one of those printed for use from 1865 to 1868, as stated above?

A. I am quite certain it is one of that very print, and there can't be a mistake about it.

Q. 20. You recognize it as being the same as those used and sent out at the time above stated, do you?

A. Yes; I do.

Counsel for complainants offers said circular in evidence, and the same is marked "Complainants' Exhibit Gottfried's Circular."

Obj. Objected to as irrelevant and incompetent.

Q. 21. Are the two cuts on this circular intended to represent the same form of machine, particularly as to the furnace part?

Obj. Objected to as incompetent and immaterial.

A. Yes; they are. This one on the English circular is the one made entirely out of brick, except the blower, grate, and the conducting pipe for the hot air, and the other one on the German circular is built with a cast-iron ash pit, with wheels underneath, and a round wrought-iron shell and brick lining on the ash pit, with an iron sliding cover on the top.

Q. 22. Then do you mean that they represent the same form of furnace, or not?

A. No; they do not represent the same form.

Q. 23. Did Mr. Holbeck manufacture machines, according to the form represented on the German circular, at the early day when the circulars were used, as you have above stated?

A. Yes; he did. He manufactured the portable ones for the purpose of selling and shipping them to the brewers. That square, brick one shown on the English circular was never built, except the one machine already described at Gottfried & Schœnhofen's brewery.

Q. 24. Does the burning inside of the barrel in the old way of pitching injure or benefit the pitch and cask?

A. In pitching the old way the fire is blistering and charring the inside of the cask severely, so that the pitch scales off easily and the blisters crack and form chambers for mould, which will spoil the beer in giving it a bad, disagreeable taste. In putting the pitch to the direct action of fire it will impair its adhesive qualities, making it brittle and easily crack and scale off.

Q. 25. Have you examined and do you understand the Defendant's Exhibit "Extract from Der Bierbrauer, 1861?"

A. I have examined it, and do understand it.

Q. 26. State, as a practical brewer, whether this exhibit describes the invention claimed in your patent now in suit.

A. It does not describe a single part of it.

Q. 27. Does it describe any machine that could be used in the pitching of barrels, as you understand it?

A. It does not.

Q. 28. Could you, as a practical brewer, have taken that exhibit, say, at the time of its publication in 1861, and, following its directions, have made any machine for pitching barrels—that is, could you have made any such machine from that description?

A. I could not have made in any way, from that description, a machine for the purpose of pitching barrels.

118 Q. 29. How long and where have you been engaged in the brewing business?

A. I have been engaged in the brewing business the last forty-three years; in Germany, Switzerland, France, and in this country.

Q. 30. Have you had practical experience in all the different departments of work of brewing during that time?

A. Yes, I have; I worked in the malt-house, in the brew-house, in the fermenting room, in the store-room, and in the cooperage.

Q. 31. Are you acquainted with the different kinds of machinery now used by the brewers generally?

A. Yes; I am acquainted with almost all kinds of machinery used in the brewing business; I was also acquainted with what was in general use in the old country before I left there.

Q. 32. Did you ever see or hear of any kind of a pitching machine before the date of the invention described in your patent?

A. I did not hear or see anything like a pitching machine in my life before we made our first experiment.

Q. 33. Have you ever seen or heard of any machine for pitching barrels or for other purposes in the brewing business in which a pure air blast is used, either alone or in connection with steam?

A. I never have heard of or seen any machine of that kind in use in the brewing business.

Q. 34. If any such machine had ever come into use in the brewing business would you be likely to know of it?

Obj. Objected to as incompetent.

A. I suppose I would.

Q. 35. Why do you think so?

A. Because I am keeping six or eight brewers' papers and some other papers of science, and which generally bring all the improvements and inventions made in the brewing business, and I am traveling a great deal, visiting brewers' conventions, and inquiring, whenever I get opportunity, about improvements and inventions.

Q. 36. Look at these three assignments under patent No. 42580; one from the Barrel Pitching Machine Company of Baltimore City to Charles F. Smith, Henry C. Comegys, and John F. T. Holbeck, dated February 24, 1879; one from Henry C. Comegys to John F. T. Holbeck, dated February 26, 1879, and one from Charles F. Smith to John F. T. Holbeck, dated February 24, 1879, as the same appear in the printed copy of assignments offered in evidence at

pages 16–19, and state by and for whom they were procured and who paid the consideration therefor.

A. They were procured by me and at my expense; three hundred and fifty dollars were paid for them.

Q. 37. Were they in any way intended to be for the benefit of John H. Stromberg, of Baltimore, and did he have anything to do in procuring them?

Obj. Objected to as incompetent.

A. They were not intended for any benefit to John H. Stromberg, nor had he anything to do with procuring them, and he did not know anything about them.

Adjourned till Thursday, June 30, 1881, at 9 o'clock a. m.

THURSDAY, *June* 30, 1881—9 o'clock a. m.

Met pursuant to adjournment.

Present: As before.

Cross-examination by Mr. PARKINSON:

119 X Q. 38. I understand from your direct examination that all the furnaces now in use or that have been in use for many years past purporting to be made under your patent have the blast brought in under the grate by a small pipe not exceeding two inches and a half in diameter. Is this correct?

A. You mean the machines made by us or by infringers?

X Q. 39. I mean those made by you and any others who are authorized to make under your patent.

A. That is correct so far as the blast was and is brought in below the grate, but the pipes where the cold air was first brought through into the furnace were differing from two and a half up to six inches in diameter.

X Q. 40. What is the diameter of the furnace when the pipes are six inches in diameter?

A. The diameter of the furnace was the same as when we had a two-and-a-half inch pipe. It was from twelve to sixteen inches in diameter; just the same as when smaller pipes were used.

X Q. 41. Do you make any furnaces now with the blast pipe six inches in diameter, and have you done so for several years past?

A. No; we do not use as large size of pipe now, and did not use them since we adopted Root's blower about ten or twelve years ago.

X Q. 42. What size have you made the blast pipe since you adopted Root's blower?

A. I guess the general size was two and a half inches, but I never was connected in the manufacturing, and it may be possible that Holbeck or the Baltimore Barrel Pitching Machine Company used smaller or larger sizes.

X Q. 43. All of these furnaces which have been sold by you or those manufactured under your patent have been cast iron, have they not?

A. No; they have not. Some have been made out of a wrought-iron shell and lined with fire brick, with a cast-iron ash pit and top.

X Q. 45. They have all been either cast-iron or wrought-iron shells, have they not?

A. Yes; but the cast-iron ones were not lined with fire brick.

X Q. 46. The blast pipe enters at the bottom so as to discharge upward, does it not, or substantially so?

A. Some enter on the bottom and some on the side.

X Q. 47. Where they enter on the side the bottom of the furnace converges, does it not?

A. It does not.

X Q. 48. Is the bottom the same diameter as the middle of the furnace?

A. Generally it is larger than the inside diameter of the furnace.

X Q. 49. Are not all, or nearly all, the furnaces which have been made under your patent in the last few years made with the pipe entering at the bottom and discharging upwards?

A. I don't know exactly if they are made so or not, because I am not connected with the manufacturing of them, and I know that Holbeck has different kinds of patterns, and I don't know which kind he manufactures for the last few years.

X Q. 50. Why do you bring the blast below the fire rather than above the fire?

A. We brought it below the fire when we made our first experiment and found that we reached what we had been after, and so we have done it that way ever since.

X Q. 51. Do you know how it would work if the blast was brought above the fire?

A. Not out of my own experience, but I learned by reading science papers and books after our patent was granted that
120 the blast by bringing it above the fire that it would produce a kind of gas which would burn the barrels inside, but I never tried it if it is so or not, because we had been fully satisfied with the result of our invention.

X Q. 52. Why do you use the Root's blower instead of the one originally used?

A. Because it gives more satisfaction in producing the blast we needed as the former one.

X Q. 53. The Root's blowers were not made as long ago as the date of this patent, were they?

A. I do not know.

X Q. 54. The machine you referred to as in use in your brewery employs what kind of a blower?

A. I am using Root's blower for the last ten years.

X Q. 55. Pitching machines have been made and sold under authority from you, purporting to be made under your patent, for the last ten years and more, have they not?

A. Yes; they have.

X Q. 56. How have you got your pay for the use of your patent—by license fees from the manufacturer or otherwise?

A. I had fifty dollars per machine from Holbeck up to the time when the Baltimore Barrel Pitching Machine Company was started, but from that date I did not get anything.

X Q. 57. What was that date?

A. I would have to refer to the abstract of the title. It appears from the assignments to that company that that assignment was dated January 25, 1871.

X Q. 58. That company made and sold these machines from that time on under authority from you and Mr. Holbeck, did it?

A. I assigned my right to Holbeck and he assigned to that company, and they made and sold machines.

X Q. 59. Who has been selling these machines under authority of your patent since February, 1879?

A. Holbeck & Co. have.

X Q. 60. How have you been paid for those sold since that time?

A. I did not get anything at all.

X Q. 61. Is there no agreement by which you are to get anything for the machines sold by Holbeck since February, 1879?

A. I am not quite sure about the date. There was an agreement when I bought out Holbeck's interest, May 1, 1879, by which he was to pay me ten per cent. on the gross selling price of each machine, but this license was a part of the purchase price. I did this because he was an old acquaintance and friend of mine, and he was in very poor circumstances at that time.

X Q. 62. Holbeck was allowed to continue the manufacture and sale of these machines from that time till the expiration of the patent, was he?

A. Yes; he was.

X Q. 63. And since May 1, 1879, has he been the only person authorized to make and sell these machines?

A. By a certain transaction I allowed Stromberg, of Baltimore, to sell twenty machines. With this exception, Holbeck was the only one.

X Q. 64. The agreement by which Holbeck was to pay you ten per cent. was modified before he had made any payment and your claim to ten per cent. released entirely, was it not?

A. No; it was not. He paid me the ten per cent. up to the 1st day of December the same year. It was released from that time on.

121 X Q. 65. You were then in error when you stated that you did not get anything at all from Holbeck & Co. since February, 1879, were you not?

A. No; I was not, because the ten per cent. from the gross selling price of machines from the first day of May to the first day of December, 1879, was only a part of the bargain when I bought his interest in the patent.

X Q. 66. Ten per cent. was paid for the right of selling those machines, was it not; if not, what was it paid for?

A. I could not give you another name than a part of the contract, as I stated above.

X Q. 67. What was the usual gross selling price per machine from May, 1879, to May, 1881?

A. He manufactures two sizes; I suppose he sells the small one for $135 and the other from $185 to $190.

X Q. 68. What part of Germany did you use to live in?

A. Between Frankfort and Wiesbaden, in the province Nassau.

X Q. 69. Who first had the idea of making this machine, you or Holbeck?

A. On account of the great danger and trouble in pitching barrels at that time, before the invention of the pitching machine, I occasionally was talking with Holbeck about those facts, and we supposed that pitching could be done in an easier way, and one word gave the other, and at last we came to the conclusion to build a machine which would produce the heat which was necessary to pitch barrels, casks, and so on; but before we came to that conclusion we had several conversations at different times.

X Q. 70. What part of it did you suggest and what part Mr. Holbeck?

A. We did not suggest it in parts; we suggested together at different times, and I cannot tell which part was Holbeck's and which was mine.

X Q. 71. Did you, as a witness in a former suit under this patent, make the following statements, referring to this machine: "I first conceived the idea of a pitching machine." "My idea was to put up a machine or kind of a stove from which the heat could be forced into the puncheon or cask, but I did not know how to produce this or do it." "After I had a talk with Holbeck and he gave me his views as to how to do it, I got a mason and built a kind of a brick oven and had an inlet for air underneath or below the grate and an outlet a certain distance above the grate. This outlet was on the side. There was an opening at the top for putting the fuel in, which was covered by fire-brick tile when the oven was in operation. For the lower opening I used a wooden blower, which I made myself, to save expense." "I did not know how to get the hot air into the puncheons, and when I had a talk with Holbeck about putting up a kind of a machine for pitching barrels he mentioned that the air could be made by a blower, and that was the point I needed, and then I went to work and fixed up the stove. I mentioned to Holbeck the construction of a furnace where the hot air or warm air went through some pipes for heating-rooms or malt kilns for the purpose of drying malt. I told him I thought hot air could be forced into puncheons or casks. He said you could drive that in with
122 a blower or fan. That is all he suggested, so far as I can now remember. We first used our machine in pitching puncheons or large casks."

A. I suppose I did.

X Q. 72. Did you make, in that deposition, the following answers to the following questions—the "he" referring to Holbeck?

"Q. Well, what did he say?

"A. He said I might try it by using a blower fan.

"Q. Did you try it on that suggestion of his?

"A. I did.
"Q. How did it succeed?
"A. It did not succeed perfectly satisfactory, as I expected.
"Q. What was the fault with it?
"A. Holbeck told me the fan was not perfect.
"Q. Then what did you do?
"A. We got an iron fan that Holbeck built; it gave more satisfaction.
"Q. Mr. Holbeck did not suggest to you anything in regard to pitching casks, did he?
"A. He did not."
A. It seems I did.
X Q. 73. You also stated in the same deposition in substance, referring to the year 1863, that you went with Holbeck to select a fan that would produce air more rapidly, and that when you got this fan you could pitch a cask in about half the time you could with the fan used before?
A. That is not so; we did not select a fan.
X Q. 74. You made this statement, did you not? "After I went down to Holbeck, as I stated, we considered to have a fan that would produce air more rapidly, and he went with me to select a larger driving wheel, and he remembered that he saw one somewhere; I went there and found two big driving wheels; I selected the smaller—about four feet six inches or thereabouts in diameter; I put it up and tried pitching again; the result was that I could pitch a cask of that former size in about half the time of the first experiment; that was still early in the spring of 1863; I pitched at that time about ten or twelve casks; I cannot tell exactly; that was all we ever pitched with the old wooden fan."
A. It seems I did.
X Q. 75. What was Mr. Holbeck's business in 1863 and prior to that time?
A. Machinist and blacksmith.

Redirect examination — Mr. BANNING:

R. D. Q. 76. Please state whether, on the question of joint invention, the depositions of Jacob Dester, John F. T. Holbeck, and Charles H. Barmm were not also taken, in addition to your own, in the cases against the Chicago brewers, which were heard before and decided by Judge Dyer, at Milwaukee.

Obj. Objected to as incompetent.

A. Yes; they were.
R. D. Q. 77. Please state about how much coke is usually contained in the furnace during the operation of pitching.

Obj. Objected to as incompetent.

A. It depends on the size of the pitching machine; they will hold from a bushel to two bushels and a half; we generally keep them full up to the outlet of the hot air.

R. D. Q. 78. Did you ever try a pitching machine in which the blast was brought above the fire?

A. I never did.

123 R. D. Q. 79. Please state whether or not from the time you commenced with the machine built early in 1863 the only opening for the air to reach the fire while the machine was in operation was the one communicating with the fan blower.

A. That was the only opening.

MATTHEW GOTTFRIED.

It is stipulated by counsel that the following deposition of Alvaro B. Graham, taken in the case of Matthew Gottfried *et al. vs.* Christian Stahlmann, may be considered and used as a deposition taken in in this cause, but subject to further examination and cross-examination and to any objection as to relevancy and competency, namely:

Q. 1. Have you examined the English patents to Robert Davison and William Symington and Charles P. Devaux, respectively, and the description of the pewterer's hot blast contained in the second volume of Tomlinson's Cyclopedia, offered in evidence by the defendant in this cause, and do you understand the inventions described in these exhibits, respectively?

A. I have examined such exhibits and understand them respectively. I have also examined the models of the inventions described in said two patents.

Q. 2. State whether or not you find any description in the exhibits or any of them of the invention described and claimed in the patent to Gottfried and Holbeck sued on in this cause, and give your reasons fully for any opinions you may express.

A. The Devaux patent, issued in 1835, relates to the smelting of "iron stone or iron ore," and has an apparatus provided for producing and applying the hot blast to the smelting furnace. It is complicated and very unlike the simple machine described in the Gottfried and Holbeck patent. It has three chambers, designated by the letters A, B, and C, which are formed of plates of iron, the joints being perfectly secured with iron, cement, or otherwise, so as not to leave any openings through which the compressed air can escape. As I understand the purpose and operation of this machine, all three chambers are absolutely necessary; hence no one can be omitted without destroying the identity of the machine. In this view I am clearly of the opinion that if there were no other differences invention was required and exercised on the part of Gottfried and Holbeck in making the simple and economical machine shown and described in their patent.

But there are other differences not less important. I do not pretend to be a chemist or to testify as one, but it is a matter of common knowledge that a blast consisting of the products of combustion produced by blowing air through fire in a close furnace, as in the Gottfried and Holbeck machine, will put out fire as effectually as water—that is, the resulting blast of gases will have this effect. This being so, the Devaux blast must have been very different from the Gottfried and Holbeck blast or else it must have been an utter fail-

ure when applied to smelting furnaces. To explain, the object of the hot blast as used in smelting furnaces is to aid combustion, and for this purpose it is absolutely indispensable that the blast should contain all the original elements of atmospheric air, or at least such of them as are necessary to produce and support combustion.

124 If the blast produced by the Devaux machine contained sufficient of the original elements of atmospheric air to aid the combustion in the smelting furnace it must have been essentially different from the blast in the Gottfried and Holbeck patent, so different, in fact, that it could not anticipate or invalidate such patent.

On the other hand, if the Devaux blast was the same as that of Gottfried and Holbeck it could not have been used for the purpose intended, but, as I have already said, must have been an utter failure when applied to smelting furnaces, for in this case it would operate to extinguish rather than aid combustion in the smelting furnace. If the Devaux blast was the same as the Gottfried and Holbeck blast it must have proved a failure, and if it proved a failure I do not see why it was not a patentable invention for Gottfried and Holbeck to take it up after the lapse of nearly thirty years and apply it to the pitching of barrels or to any other useful purpose. In fact, and without reference to other differences, I consider that in this case it was a meritorious and patentable invention for them to thus utilize this old and abandoned blast.

Another important difference is that the objects of the respeetive blasts are not analogous, but, on the contrary, widely different. In the first place, the chief object of the Devaux blast, assuming its practicability, was to promote combustion in a smelting furnace, while in the pitching of barrels combustion is not desirable, but instead of being so is actually injurious. In the second place, there is no similarity between the immense smelting furnace, which forms the ultimate object of the Devaux blast, and the small beer casks or kegs, which form the ultimate object of the Gottfried and Holbeck blast; and in the third place, the business of smelting iron ore is so different from the business of brewing beer that the use of a hot blast in one would not suggest its use in the other.

I do not, then, consider that the Devaux patent describes or shows the Gottfried and Holbeck invention for the reasons stated, namely: First, there is a wide difference in mechanism; second, there is a wide difference in the blast, or if there is not, the Devaux blast must have proved a failure and been abandoned in practical work; and, third, there is a wide difference and an utter want of analogy between the respective objects aimed at and accomplished by the two inventions.

The Davison and Symington patent provides for a blast of pure air which is heated by passing through tubes of a horseshoe form, and also for the use of steam "when a very high temperature is found necessary to purify the casks." This invention had two objects: First, to dry or season the wood as the casks were being manufactured; and, second, to cleanse them of impurities after they had been in use.

I do not consider that this patent shows the Gottfried and Holbeck invention. The mechanism is widely different, so that if the Gottfried and Holbeck patent be for a machine merely the Davison and Symington patent cannot possibly have the effect of anticipating the invention or invalidating their patent.

The Davison and Symington blast, being pure air, would have the effect of burning or injuring the cask if applied at a high temperature. I think this was recognized by the inventors, first, because they provided for the use of steam "when a very high temperature was found necessary;" second, they evidently depended largely on the burning qualities of the blast to disinfect or purify the cask; and, third, they provided for the use, in certain cases, of chains with sharp-pointed links and other means to assist in the accomplishment of their object. If the blast of hot air could have been used at a high temperature it would have accomplished all these objects and there would have been no occasion for the introduction of steam or employment of other means. To my mind this shows conclusively that the patentees recognized the fact that I have mentioned above, viz., their blast would have the effect of burning or injuring the casks if applied at anything above a comparatively low temperature.

The escaping steam could not exceed a temperature of 212 degrees Fahrenheit, and if this was regarded by the patentees as a "very high temperature" it follows that their air blast could not have been very hot. If the meaning of the patent is that the steam was to be used by itself in that case the temperature could not have been greater than the degree above mentioned. I say this on the theory that the patent simply contemplates the use of ordinary steam. It says nothing about superheated steam, and describes no means for producing superheated steam.

In view of all this, and knowing that a very high temperature is generally used in the pitching of barrels, I am of opinion that the Davison and Symington blast was not practical or capable of being used for this purpose; but if it be admitted that it was practical for pitching purposes and that it could have been heated to any temperature desired, I am still of opinion that if the Gottfried and Holbeck patent be for a process the Davison and Symington patent, describing an entirely different process, does not in any way anticipate or affect it.

This Davison and Symington machine is also objectionable for the following reasons: First, unless built very large so as to have space enough for the coiling of a long air pipe the blast could not be heated to a high temperature or even to a temperature sufficient to melt the pitch, for the air is forced with great rapidity through the pipe; second, the ordinary draft of the chimney could not be sufficient to keep up an intense fire for the heating of the air pipes; hence, in order to heat the blast to a temperature sufficient to melt pitch and heat the inside of a cask sufficient for pitching, it would be necessary to have an extra blower or other means for keeping up the fire.

I am of opinion, then, that the Davison and Symington patent does not describe or show the Gottfried and Holbeck invention for the reasons stated, namely: First, if the Gottfried and Holbeck patent be for a machine there are such differences of mechanism that the Davison and Symington patent cannot possibly anticipate it; second, the Davison and Symington blast was not practical or capable of successful use in the pitching of barrels; third, if the Gottfried and Holbeck patent be for a process the process described in the Davison and Symington patent is so different that even if practical it cannot possibly anticipate, and, fourth, the Davison and Symington machine, even if practical, is so complicated and expensive that it ought not to affect the simple and economical invention
126 described in the Gottfried and Holbeck patent.

In my opinion, the description of the pewterer's hot blast, in the second volume of Tomlinson's Cyclopedia, does not contain sufficient information to instruct the public, or even to instruct skilled coopers or brewers, how to heat barrels for pitching by means of a hot blast. It certainly does not say directly or by inference that the blast which could be thus used for soldering purposes could be safely applied to the interior of wooden vessels.

This pewterer's device has about the same relation to a pitching machine that a tea kettle has to a steam engine. Its furnace is stated to be a mere "pot," and its bellows is "worked by the foot." It would be impossible for such a machine, no matter how large it might be, to ever produce a blast sufficient for the ordinary pitching of barrels. I have seen a great many pitching machines, and am familiar with the way they are used in pitching, and I do not think it possible that this device could ever have been enlarged into a pitching machine, or even have suggested the application of a powerful blast, which sometimes seems to be a solid stream of fire four or five inches in diameter, to the interior of casks. It certainly would never have suggested the use of such a blast as will thoroughly heat the interior of a cask holding thirty or forty barrels inside of five minutes.

It is also to be observed that the pewterer's blast is not applied to the interior of anything, much less to the interior of a wooden vessel; it is merely directed upon the article to be soldered. This is another reason why it could not have suggested any such use or application of a hot blast as that provided for in the Gottfried and Holbeck patent. The pewterer's blast being thus applied in the open air, it was not necessary that it should be decomposed before use; but, coming thus into the atmospheric air, its combustible properties would be partially or wholly restored while it was playing upon the solder or article to be soldered. In this view it is clear, whatever may have been the composition of the blast upon its leaving the pot, that its original elements were so restored before use that the blast, as actually applied, was very different from the Gottfried and Holbeck blast.

Further than this, I consider that the use or object of the pewterer's blast was in no way analogous to that of the Gottfried and Holbeck patent; there was such a wide difference that neither blast

would ever have suggested the use of the other, even to those most skilled in the art to which they respectively belong, much less to ordinary mechanics.

I am, therefore, clearly of opinion that this pewterer's blast could not have suggested Gottfried and Holbeck's invention, and that the description published in Tomlinson's Cyclopedia ought not to invalidate or even limit their patent.

In conclusion, I am unable to find the Gottfried and Holbeck invention in any of the exhibits relied upon by defendant. On the contrary, I am of opinion that, so far as here shown, Gottfried and Holbeck were the first to make a simple, economical machine, capable of practical and successful use in the pitching of barrels,
127 as well as the first to apply to the interior of beer casks a heated blast of such a character as would quickly heat them sufficiently for pitching without injuring or destroying either the pitch or wood; and, notwithstanding everything here shown, I consider that invention of a high order was involved in the discovery and practical application of the new mode or process of pitching beer barrels described and claimed in the Gottfried and Holbeck patent.

Adjourned till March 4, 1881, at 9 o'clock a. m.

MARCH 4, 1881—9 o'clock a. m.

Said parties met pursuant to adjournment.

Present: As before.

Cross-examination by Mr. SANBORN:

X Q. 3. State whether or not you find described in the Devaux patent a closed furnace or fireplace with a grate in it near the bottom of the same.

A. I do; a chamber with fire bars, F; the language of the patent is: "In the chamber C are placed the fire bars F;" and, as I understand, this chamber, C, is one of a series of three chambers, according to the specification and drawings.

X Q. 4. You find, then, described in this patent a furnace or fireplace with fire bars, which bars you understand to be similar to the ordinary grate bars, do you not?

A. I do.

X Q. 5. You also find described and referred to a blower for forcing air into and up through the fuel in the furnace, do you not?

A. I will quote from the specification here: "The chamber A communicates with a blowing machine of any of the known constructions by the pipe *k*. This communication between the chamber A and blowing machine may be at any part of that chamber as local circumstances may make it convenient." I wish to state, as my understanding of this, that the atmospheric air is forced into the chamber A, and from there escapes under pressure into fire chamber C. The air is not blown direct from the blower into the fire chamber C.

X Q. 6. But it is the continuous working of the blower which forces the air into the furnace below the grate and causes it to pass up through the burning fuel, is it not?

A. Certainly it is.

X Q. 7. How is the blast conducted from this furnace into the smelting furnace?

A. I find the air conducted from the chamber C to the smelting furnace by "pipes D and E."

X Q. 8. These are iron pipes, are they?

A. They are.

X Q. 9. The hot blast is always conducted through similar pipes, usually made of iron, is it not?

A. I should say it is.

X Q. 10. In the Gottfried and Holbeck patent you find described a closed fire chamber or furnace with a grate near the bottom, do you not?

A. I do.

X Q. 11. And this furnace is similar to the furnace described in the Devaux patent, is it not?

A. It is similar to the third compartment, designated by C, in the Devaux patent.

X Q. 12. You find also described in the Gottfried and Holbeck patent a blower for forcing the air into the fire chamber or furnace and up through the fuel, do you?

128 A. I find in the Gottfried and Holbeck patent an opening, *d*, in the side of the furnace A, which forms an external communication with an internal chamber, A′, either below the grate or above; this opening, *d*, communicates with a fan case, B, outside the furnace.

X Q. 13. How is the hot blast in this patent conducted from the furnace?

A. It is conducted by a pipe or pipes.

X Q. 14. By ordinary iron pipe or pipes, is it, and similar to the pipe for that purpose described in the Devaux patent?

A. With this exception, in the Devaux patent this exit pipe is lined "with brick, stone, or other material suitable to bear a high temperature." This lining is necessary, for the reason that smelting furnaces are run continuously for weeks and months without cessation, and if the heat was of an exceedingly high temperature it would destroy the iron pipe without some such lining to protect it.

X Q. 15. Then it required no invention on the part of Gottfried and Holbeck to produce either the furnace or fire chamber, or the blower and apparatus for forcing air into the furnace, or the means used for conducting the hot blast from the furnace, of the Gottfried and Holbeck patent, did it?

A. I should say that it did require invention to combine those parts in the simple and economical manner which they did. Had it not been so I am unable to understand why it should have taken about thirty years for some one to have supplied this long-felt want.

X Q. 16. You find the furnace and pipe for conducting the hot blast from it in the Devaux patent combined in the same way as in the Gottfried and Holbeck, do you not?

A. In a similar way from the ash pit to the smelting furnace.

X Q. 17. Then the only difference in combination in the Devaux and Gottfried and Holbeck patents is the means for connecting the blower with the furnace, is it not?

A. No, sir; that is not the only difference. In the Gottfried and Holbeck patent there is no compressed air chamber, as designated by A in the Devaux patent, nor any need for such; but the Gottfried and Holbeck patent communicates the blast direct through a pipe to the fire chamber from a blower outside. A further difference is in the quality of the blast. In the Devaux patent there is a blast provided for of atmospheric air, containing a portion at least of the elements of combustion; "partly decomposed atmospheric air, gas, and vapors" is the wording of the specification, showing clearly to my mind that Devaux recognized the necessity of retaining at least a portion of that which Gottfried and Holbeck by their invention aimed to entirely destroy. The last-named patent says, "A fire is made upon the grate *a*, and by means of the blast fan applied to the furnace the heated products of combustion are forced into the cask."

X Q. 18. Do Gottfried and Holbeck claim as new the method which they use for conducting air directly from the blower to the furnace?

A. They claim the combination of the machine described in their patent as new, and, as I understand it, this is one of the elements of the combination.

X Q. 19. In which of the three claims in the specifications of the Gottfried and Holbeck patent do you find the combination or
129 means which they use for connecting the blower with the furnace?

A. I find it in the second claim. I will quote that claim, which is as follows: "The use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described."

X Q. 20. If this connecting pipe were not removable do you think it would be covered by that claim?

A. I do.

X Q. 21. The complainants claim, in their first claim, the application of heated air under blast to the interior of casks, do they not?

A. They do, "by means substantially as described."

X Q. 22. You have said above that the blast produced by the Devaux patent is a "blast of heated and partially decomposed atmospheric air, gas, and vapors;" this is true, is it?

A. It is true that that is what the Devaux patent provides for.

X Q. 23. You understand that the gases and vapors are evolved from the fuel in the furnace as it burns, do you not?

A. I do, in combination with the combustible elements of atmospheric air.

X Q. 24. Such gases and vapors are always evolved as fuel is burned in a furnace of any kind, are they not?

A. In different degrees they are.

X Q. 25. You understand that the hot blast produced by the Gottfried and Holbeck patent is heated air, do you not?

A. I understand that the blast produced by the Gottfried and Holbeck patent represents all of the degrees of air from its natural state to the point where it is converted into the "products of combustion," at which point it enters the cask or barrel.

X Q. 26. Then you understand that "the products of combustion" and not "heated air" is applied to the interior of casks by this method, do you?

A. I understand by the language of this patent that the air is decomposed to a certain extent at the time it enters the cask or barrel.

X Q. 27. What do you mean by decomposed to a certain extent?

A. I mean that the combustible elements of the air have been destroyed; or, in other words, the air is decomposed to the extent of fire's capacity for its decomposition.

X Q. 28. You mean that it is partly, not fully, decomposed, do you?

A. I mean precisely what I stated in my last answer—"is decomposed to the extent of fire's capacity for its decomposition."

X Q. 29. Has fire the capacity to fully and completely decompose air?

A. As I have stated in my direct, I am not a chemist, but my understanding of the subject is that fire has not the capacity to entirely decompose air, but has the capacity to totally destroy all of its combustible elements as such.

X Q. 30. Would the strength of the blast and the amount or vigor of the fire through which it is forced be elements which it would be necessary to consider in determining the extent to which that blast would be decomposed?

A. They certainly would.

X Q. 31. Would it make any difference whether the blast was simply forced through the flames over the fuel in the furnace or forced up through the fuel as to the extent to which the resulting blast would be decomposed?

A. I should say it would make a difference; the decomposition would be greater where the blast passed through the fuel.

130 X Q. 32. The object of the Gottfried & Holbeck patent is to heat the inside of casks, is it not?

A. Yes, sir.

X Q. 33. What is the object, as you understand it, of pitching casks?

A. The objects are, first, to prevent the beer from coming in contact with the internal wooden surface of the cask to prevent the discoloring of the beer and the imparting to it of a foreign and unpleasant taste; second, to seal the cask against the atmospheric influences, and, perhaps, possible leakage under the pressure produced by the gases in the beer.

X Q. 34. Are not old casks or casks which have been used repitched because they have become sour, and would hence injure beer if filled with it?

A. No doubt that would be an additional reason for pitching them.

X Q. 35. It is the heat applied which removes the must and filth and cleanses the interior of the cask, is it not?

A. I do not understand it so. The casks are thoroughly cleansed by other means before the introduction of the heated blast for pitching, though the heat no doubt would have a beneficial effect in that direction, and if used in combination with the other means at the time of the cleansing I think it would facilitate the removal of the impurities and odors.

X Q. 36. By other means used for cleansing you mean washing, do you?

A. Generally; yes, sir.

X Q. 37. Were casks pitched by brewers prior to 1864?

A. I believe they were, sir; for a long time prior to that.

X Q. 38. Then there is nothing new in the mere matter of pitching casks, is there?

A. No, sir.

X Q. 39. Do you find any provision in the Davison & Symington patent for heating the interior of casks by a blast of hot air forced into them?

A. I do.

X Q. 40. Then there was nothing new in applying heated air to the interior of casks for the purpose of heating them, was there?

A. No, sir; there was nothing new in the introduction of heated atmospheric air. I quote from the Davison & Symington patent: "The nature of our said invention consists, firstly, in freeing the wood of casks and other like vessels while they are in the course of being manufactured and in an unfinished state from any injurious coloring or flavoring matters with which it may be impregnated by exposing it to the action of rapid currents of hot air; secondly, in freeing casks or other vessels after they have been finished and in use from any mould, must, fungi, or other like matters which may collect on the inner surfaces thereof."

X Q. 41. In the Davison & Symington patent there is a pipe connecting the blower with the horseshoe-shaped pipe in the furnace, is there not?

A. There is.

X Q. 42. And this pipe is similar to the pipe connecting the blower and furnace in the Gottfried & Holbeck patent, is it not?

A. No, sir; there is this very important difference: That in the Davison & Symington patent the blast is conducted through the pipe or pipes through the furnace and into the cask without being permitted to come in contact with the fire, while in the Gottfried & Holbeck patent the blast is conveyed from the blower through the connecting pipe and discharged directly into the fire,
131 thence escaping from another and independent pipe into the cask.

X Q. 43. The only difference is that this pipe in the Davison & Symington patent is attached to the horseshoe-shaped pipe in the furnace, and in the Gottfried & Holbeck it enters or discharges the air directly into the furnace, is it not?

A. That is the principal difference in construction.

X Q. 44. You do not think that the air could be heated to a sufficient degree of temperature by means of the Davison & Symington patent to melt pitch, do you?

A. I do not, for the practical pitching of beer kegs.

X Q. 45. And yet you say in your direct examination that this machine could not be used on account of the danger of burning and destroying the casks. If you can't raise the blast to a sufficiently high temperature to melt pitch there would be very little danger of its burning or injuring an oak cask?

A. I have said of the Davison and Symington patent something to this effect in my direct, that the patentees evidently recognized the danger of burning or injuring the cask when they provide as follows—I quote from their patent: "Whenever a very high temperature is found necessary to purify the cask from every perceptible taint or must or charr or other bad odor it may be found useful to introduce along with or in addition to the hot air a small quantity of steam, and for this purpose there is a boiler (F, figures 1 and 3) placed over the heating pipe, having a pipe (8) furnished with a sluice cock (9), through which the requisite supply of steam may be conveyed into the hot-air exit pipe."

I have stated, in answer to cross-question 48, that the Davison and Symington blast could not be used for the practical purpose of pitching beer kegs. My reason for this opinion is this: That if, according to their own provisions, it is necessary to introduce steam with their hot blast, when used at a very high temperature, the process would be so exceedingly slow when using a less temperature than would injure the cask that it would be impractical and unprofitable when used for that purpose, while with the Gottfried and Holbeck the blast introduced into the cask is of the same intense heat as the fire itself, at the same time being free from the elements of combustion.

X Q. 46. The air in the pipes would be raised to the same degree of temperature as the fire in the furnace, would it not?

A. No, sir; it would not, for the reason that the current of air rushing through the pipes would cool their inner surfaces and very materially reduce their capacity for heating the air.

X Q. 47. Do you find any provision in the Davison and Symington patent for the use of steam alone for heating the inside of casks?

A. I do.

X Q. 48. The steam could not be raised to a temperature higher than 212, could it, by means of the boiler described in the patent?

A. No, sir.

X Q. 49. That is, higher than the boiling point of water?

A. No, sir; not higher than the boiling point of water.

X Q. 50. No amount of pressure would raise it to a higher degree of temperature, would it?

132 A. It would rise to a slight degree higher than that point under pressure.

X Q. 51. Do you find that Davison and Symington claim in their patent the use of any other sort of air than atmospheric air?

A. I find in their specification this statement: "We do not limit ourselves in the use of such air alone, but claim a right to the use of any other sort of air which, being heated and driven in rapid currents as aforesaid, will produce the like effects." But I understand from this specification that any other air used must be driven through their series of pipes.

X Q. 52. Is there any reason why a sufficient draft cannot be obtained to produce a vigorous fire in the furnace of the Davison and Symington patent by means of a chimney or pipe for the outlet of smoke similar to those which are used for such purposes?

A. The only reason I can offer is that such a feat has never been accomplished.

Redirect examination by Mr. BANNING:

R. D. Q. 53. In answer to cross-question 44 you stated in substance that, in view of the Davison and Symington patent, there was nothing new in the introduction of heated atmospheric air to the interior of casks at the date of Gottfried and Holbeck's invention; did you say this on the theory that the Davison and Symington invention came into actual use for the purpose specified in their patent?

A. Certainly; I based my opinion on that theory.

R. D. Q. 54. If the Davison and Symington invention never came into actual or practical use would you consider that there was novelty in the introduction of heated atmospheric air to the interior of casks at the date of Gottfried and Holbeck's invention?

A. I certainly should.

R. D. Q. 55. So far as you are informed, would you consider that there was novelty in introducing and making practical use of a blast of atmospheric air for pitching barrels, or for any other purpose connected with the brewing business, at the present time, 1881?

A. For that purpose, I should.

R. D. Q. 56. Suppose the Davison and Symington machine actually went into practical use for the purposes specified in their patent, would you still consider that there was novelty at the date of Gottfried and Holbeck's invention in the application of a hot blast of any kind to the purpose of heating or melting pitch?

A. I should, in the interior of casks.

ALVARO B. GRAHAM.

And being recalled and further examined by Mr. BANNING, testifies as follows:

Q. 57. Have you examined the extracts from two German publications offered in evidence by defendant and marked, respectively, "Defendant's Exhibit Translation from Handbuch fur Bier-Brauer, 1854," and "Defendant's Exhibit Translation from der Bier-Brauer, 1861," and do you understand them, respectively?

A. I have examined them, and think I understand them.

Q. 58. Have you also examined the following English patents offered in evidence by the defendant, namely: To Cochran and Galloway, 1818; to J. B. Neilson, 1828; to G. H. Bovill, 1846; to A. E.

L. Bellford, 1854; to John James Russell, 1857; to John James
133 Russell, 1859, and to Isaac L. Bell, 1860, and do you understand them, respectively?

A. I have examined them, and I think I understand them.

Q. 59. State whether or not you find any description in these exhibits or any of them of the invention described and claimed in the patent to Gottfried & Holbeck, sued on in this cause, and give your reasons fully for any opinions you may express.

A. Defendant's Exhibit "Translation from Handbuch fur Bier-Brauer, 1854," describes a machine consisting of a fire pan a foot and a half or two feet long, five or six inches wide, and seven or eight inches high; it also has legs, openings, a handle, etc., and a bellows is used when the machine is in operation. In use this fire pan is inserted in the cask to be pitched, and, the bellows being operated, the fire in the pan is increased, and the heat radiating or going out from the top heats the inside of the cask. I should have said the blast is produced by common bellows, the air passing through a cask between the bellows and the fire pan. I do not consider this apparatus the remotest suggestion of the Gottfried & Holbeck machine or process, for the reasons, first, the fire itself is inclosed in the cask to be pitched, and does not heat the cask by the products of combustion, but, on the contrary, the cask is heated by hot common atmospheric air. To my mind this apparatus is more like placing a stove in the room for warming it, and the bellows used in connection with the pan is quite often used for accelerating the fire in a stove. Defendant's Exhibit "Translation from Der Bier-Brauer, 1861," is a vague description of a system for the drying of casks to prevent decay; it has no reference to the pitching of casks or kegs. The heat contemplated in this description I understand to be equal to common summer temperature, as it describes a means of creating a current of air through the casks in an open space or field in the summer time. For drying in the winter season it describes a room or building whose doors and windows are made air-tight by means of pasting cotton strings in or at the joints of the doors and windows to prevent the warm air of the room from escaping. It provides for a chimney to create a draft; also for a stove or furnace or fireplace sunk in the ground some three feet below the level of the floor, with an air flue communicating from the fireplace to the outside atmosphere to produce combustion. The casks are placed upon a pedestal, counter, or table somewhat elevated above the floor. Each cask is provided with a pipe or hose leading from one of the openings or tap holes to the chimney to produce a current of the warm air through the cask for the purpose of drying the cask. This description mentions a fan, if water or steam power be convenient, for the purpose of accelerating the draft through the cask. I do not find, however, any connection, by pipes or otherwise, between the fan and the casks. This description conveys to my mind simply an open fan, without a case, used simply for the purpose of agitating the warm air in the room to somewhat aid the draft through the cask. This fan, however, is in nowise a necessary adjunct to the

system described, and from this description I do not think it
134 possible for any mind to have conceived the pitching machine of Gottfried & Holbeck. The English patent exhibits mentioned in the question are all of them for entirely different purposes, and I should not esteem them worth considering in the light of suggesting or anticipating the Gottfried & Holbeck invention.

Q. 60. Please state whether it would be possible to pitch kegs with this pitching pan described in Defendant's Exhibit "Translation from Handbuch fur Bier-Brauer, 1854."

A. It would not be possible to pitch ordinary beer kegs without removing one of the heads.

Q. 61. Please look at this drawing marked "G. H. K.," sketch of apparatus for heating and purifying, etc., the interior of casks described in Der Bier-Brauer, 1861, offered in evidence by the defendant, and state whether you find in Defendant's Exhibit "Translation from Der Bier-Brauer, 1861," any description of any such machine as that represented in this sketch.

A. I do not. All the resemblance I find in the sketch referred to is the furnace and the casks elevated upon the table or bench. This sketch shows a blower connected by pipes to the bung-holes of the casks. This sketch also shows a pipe leading to the fireplace. This sketch shows an encased blower not described in the description referred to. The sketch fails to show, however, the chimney and the pipes leading from the casks to the chimney for the purpose of producing a draft through the casks, as described in the exhibit, and I think the draughtsman in making this sketch drew very largely upon his knowledge of the present state of the art. I am free to say, however, that the description referred to describes an exceedingly crude arrangement, even for the purpose for which it was designed, and I do not think that it would ever suggest the thought of an apparatus for pitching casks or kegs.

Q. 62. Please state whether you mean to be understood by your last answer as stating that the furnace shown in this sketch correctly represents the furnace described in the exhibit referred to.

A. This sketch shows a furnace located upon the level of the floor. The description calls for a furnace in a pit sunk some three feet below the level of the floor.

Q. 63. In this sketch is there represented any horizontal channel communicating with the outside air?

A. I fail to find such a channel.

Q. 64. Please state whether, in your opinion, the exhibit "Translation from Der Bier-Brauer, 1861," contains a description sufficiently full, clear, and definite to enable a skilled mechanic familiar with the art to which such description relates, and also familiar with the manner in which casks and kegs were pitched at the date of its publication, 1861, to construct or use the invention described in complainant's patent.

A. I do not.

Q. 65. If such exhibit describes a machine which would be correctly represented by the sketch referred to in question 61, please state whether, in your opinion, based upon your experience as a

mechanic and upon your knowledge of pitching machines and their manner of operation, such machine would be operative and practical in the actual work of pitching kegs and casks, giving your reasons for any opinion you may express.

135 A. It would not be operative practically for that purpose, for the reason that in the first place the sketch shows a large internal drum or fire place with comparatively a small opening at the top for the reception of atmospheric air, with no means of forcing such air down through the mass of coal or coke to the suction pipe connecting the furnace with the blower, except natural atmospheric pressure, and the downward flow of the atmosphere would be retarded by the resistence of the fuel, etc. I find in the description here the statement that the ash place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with the cold air. As I understand this, were it possible to produce a blast of the character necessary to accomplish the results of the Gottfried and Holbeck invention, the introduction of the natural atmospheric air into that blast after it left the furnace would produce combustion instantly upon its introduction into the cask or keg. For these reasons I should consider it absolutely inoperative for the purpose.

Q. 66. Please state whether, from the description contained in said exhibit, the use of a blast at a high temperature was contemplated.

A. No; I should say it was not. For summer use, common outdoor atmosphere was used, and when using the furnace in the winter there was means used to reduce the heat in case it got too hot.

Q. 67. In your former answers you have stated that the description in said exhibit required the windows to be carefully batoned to make them air-tight. Please state whether, in a furnace constructed like the one in the sketch, standing in a tight room as described, receiving its supply of air at the top, the fire would continue in combustion any length of time.

A. It would not any considerable length of time. The description evidently contemplates this difficulty by providing an air channel communicating with the outside atmosphere.

Q. 68. Is the channel which you have mentioned the means provided in such description for supplying the fire with atmospheric air?

A. It is the only means described.

Q. 69. Then, in your opinion, could the writer of that description have contemplated the construction or use of any such furnace as the one represented in the sketch above mentioned, which receives its supply of atmospheric air from the top?

A. He certainly could not.

At the request of counsel for complainants the witness retired into another room to consult with complainants' counsel.

Q. 70. If the "Ohm" barrel between the bellows and cask, mentioned in Defendant's Exhibit "Translation from Handbuch fur Bier-Brauer, 1854," were removed and the pipe from the bellows attached directly to the fire-pan inside of the cask, would it make any

difference in the principle of operation, and would the machine as then operated, without the "Ohm" barrel, contain or embody the Gottfried and Holbeck invention?

A. It would not. The only function the "Ohm" barrel performs is to communicate a more uniform blast. In the absence of the "Ohm" barrel the blast from the bellows direct would be more vibratory. The machine without the "Ohm" barrel would
136 not embody the invention in the Gottfried and Holbeck patent any more than with it.

Q. 71. If the heat applied by the fire-pan machine above mentioned should be considered the same as the blast applied by the Gottfried and Holbeck patent, would you then consider that such fire-pan machine contains or suggests the invention described and claimed in such patent?

A. I should not; there is not the remotest resemblance in the mechanism between the two.

The deposition thus far being read over, witness states that he desires to say, in connection with his statement, that the fire-pan referred to heats the cask by common atmospheric air, as follows: The small quantity of fire in the pan, in my judgment, is not sufficient to destroy all of the combustibility of the atmospheric air, for the reason that the air from the bellows is injected into the fire-pan through a smaller pipe, while the opening or the exit of the air is of so great an area that it escapes before the combustible elements of the air are consumed, and the cask in which the air passes is of such a capacity that it would be practically impossible to produce a pressure with a common bellows sufficient to confine the air in the fire-pan long enough to entirely decompose it, while with the Gottfried and Holbeck the fire chamber holds the blast under pressure a sufficient length of time, considering the large volume of fire through which it passes, to wholly decompose the air so far as fire is capable of such decomposition.

Q. 72. As a practical mechanic, and from your knowledge of the art of pitching, would you consider that there was any patentable merit or novelty in the discovery that a hot blast could be applied practically to the interior of wooden vessels at the date of the Gottfried and Holbeck invention?

A. I should consider that there was patentable novelty in the introduction of a hot blast to the interior of wooden vessels that would heat them almost instantaneously, especially when that vessel contains a highly combustible material, such as melted resin or pitch.

Adjourned till June 30, 1881, at 4 o'clock p. m.

JUNE 30, 1881—4 o'clock p. m.

Met pursuant to adjournment.
Present: As before.

Cross-examination by Mr. PARKINSON:

X Q. 73. Assuming that the machine described in Exhibit "Translation from Handbuch fur Bier-Brauer, 1854," had a blast

pipe continued along the bottom of the coal-pan beneath the bed of coal, substantially the length of the pan and perforated so as to discharge the air all along the length of the coal, you would still be of the opinion that when the blast was driven by blacksmith bellows through this pipe and through ignited coke or coal in the pan it "does not heat the cask by the products of combustion, but, on the contrary, the cask is heated by hot common atmospheric air," would you?

A. In that supposed case the atmosphere doubtless would be partially decomposed—decomposed, perhaps, to a greater extent than if blown from a common nozzle.

137 X Q. 74. Under the conditions of the last question would the decomposition of the air be, in your opinion, more or less complete than in a machine constructed in all respects like the drawing of complainant's patent, having the amount and arrangement of the fuel the same relative to all the parts and the proportion and arrangement of all the parts to each other as there shown.

A. I should think from the amount of fuel shown in the drawing of complainant's patent that there might not be so great a difference in the decomposition as is shown in the practical operation. Still the drawings in their respective proportions show at least two and a half to three times the forcing capacity of air into the fire chamber, which is comparatively very small, as is shown in the exit capacity; hence the air is retained under pressure in or upon the fire in complainant's drawing a considerable length of time, while in the supposed case the blast produced by a blacksmith's bellows could not create a sufficient pressure in so large a receptacle for the air to confine the air in the fire long enough to materially effect it—that is to say, the air's free passage through the fire; hence I should say that the decomposition would be far greater under or in the Gottfried and Holbeck furnace.

X Q. 75. Do you understand that the air would pass into the furnace faster than it would pass out where the construction was such as was shown in the drawing of the patent?

A. I do until the pressure of air in the furnace is equal to the power of the fan, and from that time the ingress and exit would be comparatively equal.

X Q. 76. This equalization of pressure would take place almost instantly after the blast was applied, would it not?

A. That would depend upon the velocity of the fan. When the fan is run at a sufficient velocity and force for ordinary pitching the pressure in the furnace would be several times equal to natural atmospheric pressure.

Adjourned to July 1, 9 o'clock a. m.

JULY 1, 1881.

Parties met pursuant to adjournment.

X Q. 77. Do you understand that the combustion and deoxygenation would be more or less perfect when the air is confined temporarily and under pressure in the furnace than when there is no confinement and compression of the air?

A. I should presume that it would be more with pressure, but as I am not a chemist and have but common knowledge on that subject my opinion, perhaps, might be of little value, if any.

X Q. 78. Do you think that where the air was introduced under pressure above the fire as in the drawing, also passing out above the fire as there shown, the combustion and deoxygenation of the air passing through the furnace would be increased or diminished as the rapidity of revolution of the fan increased?

A. When the air passes in over the fire, as shown in the drawing, I am unable to state whether it would have an increasing tendency or not. It is a subject I have had no experience with or given any study. I should not think it would be increased in the absence of an outlet passage below the fire. I should say it would not affect it; that is my opinion merely.

X Q. 79. With the construction, arrangement, and proportion in all respects as shown in the drawing, the amount and arrangement of the fuel also being proportionately the same, would or would not it be practicable, in your opinion, to both maintain combus-
138 tion and raise the temperature within the cask to a sufficient degree to melt the pitch, and would or would not there be under such circumstances any substantial deoxygenation of the air passing from the blower through the furnace to the cask?

A. From my observation I should say it would not be practicable. What its effect as to deoxygenation would be I should be unable to say. I will say, however, as I understand it, the introduction of the blast over the fire is wholly impracticable. I would like to state further, as I understand the Gottfried & Holbeck patent, it does not call for a machine introducing the blast over the fire. It calls for a machine introducing a blast below or above the fire grate. A blast introduced immediately above the grate and at the base of the fire would necessarily pass through the fire instead of above it.

X Q. 80. There is nothing in the specification of the patent which limits the arrangement of the blast pipe to any other relationship to the fire than that which is shown in the drawing, is there?

A. Yes, sir; I should say there is, very clearly. I will quote: "An opening, *d*, is made through the side A, which forms an external communication with an internal chamber, A′, either below the grate or above this grate, as shown in figure 1. This opening, *d*, communicates with the fan case B arranged outside of the furnace and furnished with a series of rotary wings or fans, *e e*, which may be rotated by any convenient motive power. The fans *e e* create a blast of air through the furnace chamber A. This air, rushing through the opening *d* and through the fire which is built upon the grate *a*, is allowed to escape through the passage *d* near the top of the furnace."

X Q. 81. You understand the import of the language quoted to be that where the opening *d* is arranged with reference to the fire exactly "as shown in figure 1" it would not embrace the invention patented; or, in other words, that the effect of this language is to "limit the arrangement of the blast pipe to another relationship to the fire than that which is shown in the drawing," figure 1, do you?

A. I do not. I understand from the language "above the grate" it is limited only by the height of the fire furnace.

X Q. 82. Then I repeat my former question, which you have not answered: Is there any language in the specification of the patent which limits the arrangement of the blast pipe to any different relationship to the fire; or, in other words, to any different position in reference to the fire than that which is shown in the drawing?

A. Well, I should say it did not, as I understand it.

X Q. 83. In the Exhibit "Der Bier-Brauer, 1861," do you not find anywhere a reference to air-tight pipes entering the vessels to be dried and a provision that there shall be as many of these pipes as will correspond to the vessels to be dried?

A. I do not find such provision, and I referred to those pipes as being wanting in the sketch marked "G. H. K., sketch of apparatus for heating and purifying, etc., the interior of casks described in Der Bier-Brauer, 1861." Those are the pipes extending from the casks to the chimney.

X Q. 84. This extract states, does it not, that it will enumerate a few instances illustrating the various ways in which the heat
139 and motive power can be applied for warming the interior of vessels, and then in five successive paragraphs describes different methods of obtaining and applying the heat?

A. It does.

X Q. 85. In the fifth paragraph, in which the heat is spoken of as drawn by the fan out of a channel which connects with the ash place of the shaft furnace and thus blown through the vessels, there is no allusion to the chimneys, is there?

A. There is not.

X Q. 86. In this fifth paragraph there is no mention of a close room or to a communication with the outside atmosphere other than the door which it is stated may be opened to reduce the temperature?

A. There is not; neither is there anything else, taking this paragraph alone, except a fan, if one be at command, and superfluous water or steam power, and a somewhat roomy ash place, a small pit or shaft furnace. That ash pit has an opening from the side provided with a small door. This is the description of the machine set forth in the fifth paragraph. This fifth paragraph is simply an additional means applied to the system described in some of the foregoing paragraphs. I should like to state further that the entire description from beginning to end is so vague and uncertain in its terms that it is, in my opinion, unworthy of the name of the description of anything.

X Q. 87. It is stated in the fifth paragraph, is it not, that the fan "can be attached and thus blow the air through the vessels, whereby the fan draws the air out of a channel which connects with the somewhat roomy ash place of a small pit or shaft furnace, which is fed with coke or charcoal;" also that the small door at the side of the ash place is provided to "mix the burning air, in case it gets too hot, with the cold air?"

A. It is; but I wish to state there is not the remotest suggestion in this paragraph of the fan being connected in any manner with the casks to be warmed or dried. It is very clear from the first and second paragraphs relating to a system of drying casks in the summer season that the current of common atmosphere in an open yard or field, where the casks were placed in proper position as to their openings with the direction of the breeze, was considered sufficient for the purpose to be accomplished. In the second paragraph I find this description for out-door use in the summer time for casks with one opening: Paragraph 2. Vessels with one opening can be dried in the air if the opening is placed upward and they are supplied with sheet-iron pipes so placed in the opening that $\frac{3}{5}$ of their length penetrates the vessel and the other $\frac{2}{5}$ extends outward; the circumference of the pipe is $\frac{1}{8}$ smaller than that of the opening of the vessel; the length of the pipe is as deep as the vessel itself. From this description it is exceedingly clear to my mind that a blast as ordinarily understood was not contemplated. I will state further in that connection that the fan is not made a necessary part of this system, the draft of a chimney being sufficient to draw the warm atmosphere through the cask when such warm air was produced by artificial means.

X Q. 88. Do you mean to be understood in your answer to question 65 as stating that a machine constructed as shown in the sketch of Die Bier Brauer, 1861, having the fan as there represented connected with the ash place of the furnace and revolving so as to force the air towards the casks as it was drawn from the cask thrrough pipe D would have no means of forcing the air through the coal except natural atmospheric pressure?

A. I think that the suction of such blower, located and operated as shown in the sketch referred to, would about equal the friction of the air in its passage through the fuel when the opening at the top was in the proportion to the fire chamber shown in this sketch.

X Q. 89. Would the fire be more or less effective in propelling a blast of air through the furnace when so applied as to draw the blast from the furnace toward itself, as shown in this sketch, than when applied to push the air through, as indicated in complainants' patent, assuming the proportion of the parts to be the same?

A. In my opinion the same fan run at the same velocity applied to the same drum would have the greatest effect when the fan was placed as in complainants' patent.

X Q. 90. Do you know whether this or the exact contrary is the rule generally recognized and accepted by educated mechanics?

A. I do not when educated mechanics are considering the transmission of air by means of a fan blower.

X Q. 91. To what degree of temperature do you think the Davison and Symington machine could safely raise the hot air discharged into the casks without causing ignition?

A. I think they might raise it to a much higher degree than a machine constructed according to the drawings and specification of their patent is capable of producing. I am entirely unable to state the degree of heat at this moment necessary to produce ignition, but

I will say that the current of cold air forced through the nest of horseshoe-shaped pipes of the Davison and Symington patent, with any considerable rapidity, would keep the internal surfaces of those pipes comparatively quite cool.

X Q. 92. Can you state, even approximately, the maximum temperature to which the blast applied by this machine could be raised without causing ignition, assuming for the purposes of your answer the possibility of raising it to that temperature?

A. I could not; it is a subject I have not thought of, but would say that ignition would take place at about the same temperature when produced by the Davison and Symington device that it would when produced by any ordinary means of producing a sufficient heat for ignition.

X Q. 93. Please state, as nearly as you can, how high you think the temperature of the blast can be raised by the Davison and Symington machine.

A. The height of temperature that might be produced by the Davison and Symington blast is contingent upon so many possible conditions that I think it would be very difficult for any man to answer that question satisfactorily; and, furthermore, that machine never has, to my knowledge, been practically in operation so as to arrive at any data as to its capacity.

X Q. 94. Can't you state approximately the highest temperature to which you think it would be possible, under favorable circumstances, to raise the blast of this machine or, in other words, the limit beyond which you think it would be impossible to raise it?

A. I cannot; if I should attempt it it would be but the merest guess and of no value.

141 Redirect examination by Mr. BANNING:

R. D. Q. 95. Please state whether, in your opinion, a machine constructed exactly like that shown in drawing No. 1 of complainants' patent with the pipe from the fan entering the furnace above the grate would be operative, practical, and successful for pitching kegs or casks, if the fire chamber, as shown in that drawing, was sufficiently filled with coke?

A. It would be.

Recross-examination by Mr. PARKINSON:

R. C. Q. 96. In the case assumed in the last question the rapidity and quality of the work would depend upon the quality of the fan you use, the rapidity of the blast, the kind of fuel you used, and to some extent upon the shape and size of the furnace, would it not?

A. In my answer I assume that the blast and the fuel to be as stated in that question, but of course the speed, quantity, and the quality of work accomplished would depend upon the size and velocity of the fan and the kind and quality of fuel used, and also on the form and size of the furnace.

ALVARO B. GRAHAM.

WALTER S. HAINES, a witness produced, sworn, and examined on the part of complainants, deposes and testifies as follows:

Direct examination by Mr. BANNING:

Q. 1. State your name, age, occupation, and place of residence.

A. Walter S. Haines; thirty years; professor of chemistry in Rush Medical College, Chicago, Chicago, Illinois.

Q. 2. State what experience you have had in chemistry, and whether you are accustomed to testify as an expert in matters involving chemical questions.

A. I have been engaged in the pursuit of chemistry about fourteen years; I studied chemistry one year at the Chicago high school, where I graduated in 1868; I then devoted one year exclusively to chemistry in the laboratory of Professor Wheeler, this city. Afterwards I studied for nearly two years in the laboratory of the Institute of Technology in Boston; I then continued the study one year at the Chicago Medical College, where I graduated, receiving my degree of doctor of medicine, in 1873; since then I have spent nearly a year and a half in Europe, continuing my studies, spending most of my time in the pursuit of chemistry; I have been professor of chemistry in Rush Medical College nearly five years, and before accepting this appointment I had been professor of chemistry in the medical department of the Northwestern University of Chicago for four years. Rush Medical College, in which I am now engaged, is recognized as one of the leading institutions of the kind in America, ranking, I think, third or fourth in size, attendance, etc.; I have had occasion to testify a number of times in cases involving questions of chemical science; I am frequently called upon to examine the chemical properties of substances, and make such investigations my profession.

Q. 3. Look at this printed copy of your depositions, taken more than two years ago, in the suit of Matthew Gottfried *et al. vs.* The Philip Best Brewing Company, and state whether you still adhere to the views and opinions therein expressed.

A. I do; my investigation and study since giving that dep-
142 osition have confirmed and strengthened the views therein expressed.

It is stipulated by counsel that the deposition of Professor Haines, taken in the case of Matthew Gottfried *et al. vs.* The Philip Best Brewing Company, and referred to above, may be considered and used as a deposition taken in this cause, but subject to further cross-examination and to any objections as to relevancy and competency, namely:

Q. 4. Have you examined the specification and drawings of patent No. 42580, to J. F. T. Holbeck and Matthew Gottfried for an improved mode of pitching barrels, and do you understand the same?

A. I have examined the specification and drawings above named and understand the same.

Q. 5. What is the invention described in the patent referred to and particularly mentioned and claimed in its first claim?

A. The invention mentioned in the first claim of this patent is the application of a heated blast to the interior of barrels, for the purpose of pitching the same by means of a process, one method of applying which is given in the specification. The means by which the blast is applied consist in blowing air through a fire and passing the heated gases into the interior of a barrel.

Q. 6. State briefly what mechanism is described for applying the blast mentioned in your last answer.

A. It consists of a fan which forces air through a fire in a furnace the heated gases pass through a movable and somewhat conical tube into the barrel through the bung hole or other suitable opening.

Q. 7. That is, the specification and drawings show a furnace with openings and an outlet pipe, to which a fan blower is connected for the purpose of forcing the air into the fire and through it into the barrel to be pitched, do they not?

A. Yes, sir; they do.

Q. 8. State what you consider to be the essence of the invention mentioned in this first claim.

A. The use of heated gases in pitching the interior of barrels.

Q. —. Do you mean the use of heated gases generally, or the use or application of a hot blast composed of such gases?

A. The use of a hot blast composed of such gases.

Q. 10. State what chemical constituents enter into and compose the hot blast provided for in this patent.

A. The chemical constituents of this blast are nitrogen, carbonic acid gas, highly-heated steam, and perhaps a little unconsumed oxygen. Whether the latter is present or not would depend upon the regulation of the blast of entering air.

Q. 11. Taking the blast as provided for in the specification of that patent, would it contain, or not, any perceptible amount of oxygen or other combustible matter?

A. The blast as produced according to the specification would be free from any quantity of oxygen that could cause further combustion to take place. Oxygen being essential to combustion, no burning can take place where it is absent.

Q. 12. What would be the relative value of a blast of this kind for the purpose of pitching barrels as compared with a blast of pure air or a blast containing any considerable amount of oxygen—that is, would it be better or worse for this purpose than such other blast?

143 A. The blast provided for in the patent referred to would be much better for the purpose of pitching barrels than the blast of pure air or one containing a considerable proportion of free oxygen.

Q. 13. State your reasons for the last answer.

A. Oxygen burns up wood, pitch, and other similar substances when brought in contact with them at a high temperature. If, therefore, the blast employed contained any considerable proportion of free oxygen it would have a tendency to injure both the barrel and the pitch by burning them. In the patent referred, to the oxygen having been taken from the air by its being passed through a

burning fire, the resulting blast would not have power of consuming the pitch or the barrel used. A blast of heated air either deprived not at all or imperfectly of its free oxygen would be calculated to injure the pitch and the barrel by causing them to burn to a greater or less degree.

Q. 14. Would the blast last mentioned have the effect of burning the pitch or barrel when heated to the degree necessary to accomplish the object of the Holbeck and Gottfried patent, or to the temperature to which the blast provided for in said patent may be heated?

A. It is my opinion that at a temperature sufficient to accomplish the object of the patent some burning would take place if much free oxygen were present in the blast. At the temperature to which the blast spoken of in the patent is heated or may be heated in actual use more or less burning of the pitch and interior of the barrel would necessarily take place unless the blast were deprived of its free oxygen. I do not mean, in using the term "burning" above, that there would necessarily be flame produced, but there would be a chemical action such as we frequently know in common parlance as burning.

Q. 15. Would this chemical action produce any decomposition or other injurious effects in the pitch or barrel or not?

A. It would produce an injurious effect by injuring the strength of the barrel and changing the qualities of the pitch.

Q. 16. Look at this English patent to Robert Davison and William Symington, No. 9924, dated November 2, 1843, and state whether you understand it and what kind of a blast it provides for.

A. Yes; I understand the patent. It provides for a blast of pure air, which is driven through heated tubes and then forced into the barrel. This blast consists of highly heated air with all its original constituents present in an unaltered condition, containing, therefore, a considerable proportion of free oxygen.

Q. 17. Would that blast be practical for use in pitching barrels unless kept at a low temperature so that it could not produce any burning in the pitch or barrel?

A. Unless the blast were kept at a sufficiently low temperature the free oxygen it contains would injure the pitch and the barrel by burning them.

Q. 18. Then would you consider that blast as practical for use in pitching barrels where numbers of them were being pitched rapidly and together, so that but little time would be spent in heating the inside of the barrels?

A. I think there would be danger, in using this blast, of injuring the barrels and the pitch by the presence of overheated oxygen, unless the operation were to proceed slowly and with care.

144 Q. 19. Would it be necessary to proceed thus slowly and with care in pitching barrels with the complainant's hot blast?

A. Much less caution would be needed and much greater rapidity of action could be obtained in using the complainant's blast, from the fact that, free oxygen being almost or entirely absent, there

would not be the same danger of oxidizing and thus injuring the pitch and the barrels.

Q. 20. Considered chemically, are these two blasts—that shown in the Davison and Symington patent and that shown in the Holbeck and Gottfried patent—the same and calculated to produce the same effects when applied to the interior of casks or barrels?

A. The two blasts would be chemically different. That produced by the Davison and Symington patent would contain the constituents of air unaltered—that is. it would consist essentially of about one part oxygen to four of nitrogen. The blast produced by the Holbeck and Gottfried patent would consist chiefly of the products of combustion of the fuel used, together with the nitrogen of the atmosphere. This latter blast, then, would contain carbonic acid gas, nitrogen, highly heated steam, and some minor products of combustion, varying with the fuel used. The first blast would not alone heat the interior of the cask, but would tend to oxidize it—that is, it would tend to produce the action commonly known as burning, not necessarily, however, with the production of active flame. The second blast, on the other hand, would simply heat the interior of the cask without oxidizing it, since the oxygen has been taken out from the air by passing the latter through a burning fire. The effects would be, therefore, quite different both on the wood and the pitch.

Q. 21. This Davison and Symington patent is entitled "a method of cleansing, purifying, and sweetening casks, vats, and other vessels." Is the blast which it provides for well calculated for the purpose of cleansing barrels or not?

A. It is admirably adapted for the purpose of cleansing casks, since the free oxygen which the blast contains would oxidize or burn out the impurities.

Q. 22. Could the blast provided for in the Holbeck & Gottfried patent be used for this purpose of cleansing barrels?

A. Since the blast in the latter patent contains little or no free oxygen, it would not accomplish the cleansing of the cask in an effectual manner.

Q. 23. This Davison & Symington patent provides for the use of steam, having an apparatus for producing it "when a very high temperature is found necessary" for the purpose mentioned. Please state the object or necessity for thus producing and using steam in connection with that blast.

A. The introduction of steam into the blast when a very high temperature is used would lessen the injurious effects of the oxygen of the air upon the cask by replacing a certain portion of it. It would also undoubtedly aid the sweetening action by its own presence.

Q. 24. Then, in short, does or does not this Davison & Symington patent embrace or provide for the hot blast or application of the hot blast shown in the Holbeck & Gottfried patent?

A. It does not provide for the blast shown in the latter patent, the two blasts being differently produced, having different chemi-
145 cal composition and producing different effects.

Q. 25. Is the mechanism shown in that Davison & Symington patent the same as the mechanism shown in the Holbeck & Gottfried patent?

A. The mechanism in the two patents is quite different.

Q. 26. Have you examined this English patent, No. 6901, dated October 8, 1835, to Charles Pierre Devaux, for "certain improvements in smelting iron stone or iron ore," and do you understand its specification and drawings?

A. I have examined a copy of the Devaux patent and understand its specification and drawings.

Q. 27. State what the invention described in this patent is and what its object is.

A. A blast of compressed air is forced through a fire and then carried to a smelting furnace by means of a flue for the purpose of increasing the heat produced by the combustion in the furnace. It also has for its object the use of certain chambers, which regulate the blast and also permit a workman to enter to attend to its running.

Q. 28. The specification of this patent, describing its mechanism, says: "The chambers A, B, and C are formed of plates of iron connected by screw bolts or otherwise, the joints being properly stopped and perfectly secured with ordinary iron cement, in order not to leave any opening for the escape of the condensed air which they are to contain." State whether or not these different chambers are necessary; and, if so, whether or not it is necessary they should be made air-tight in carrying out the object of this invention, giving your reasons for any opinion you may express.

A. In carrying out the object of this invention the chambers described would be necessary, and it would be necessary, as well, that the joints should be tight, in order that equable and even blast may be produced; for, were the chambers A and C absent or were their joints lose so as to allow the escape of air, the intermitting force of the blowing machine would be felt in the blast; moreover, the chamber B is necessary in order that a workman may enter the chamber A with safety, to look after the working of the apparatus without interrupting the blast.

Q. 29. Is it necessary or desirable that a blast to be used in connection with a smelting furnace, for the purpose which this inventor had in view, should be uniform and constant or not?

A. It is desirable that the blast should be uniform. It is not necessary, but very desirable.

Q. 30. Could the blast provided for in the Devaux patent be uniform or regular if either of these chambers A, B, and C were omitted or not?

A. If the chambers A and C were omitted the blast would be constantly intermitting. If the chamber B were omitted the blast would entirely disappear from the smelting furnace when the workman entered the chamber A.

Q. 31. Is the working of the smelting furnace and the quality of the iron affected by the blast introduced to promote combustion if such blast is intermittent or irregular; if so, in what way?

A. If the blast were irregular the temperature of the furnace would fluctuate and the quality of the iron be changeable according to the intensity of the blast.

Q. 32. State whether or not different qualities of iron are
146 produced by different blasts—that is, blasts of different temperatures. I speak of blasts introduced for the purpose of promoting combustion in the smelting furnace.

A. Blasts of different temperature produce different qualities of iron.

Q. 33. What is the object of having compressed or condensed air in this Devaux blast?

A. One of the chief objects is to force through the fire a greater quantity of air, and hence a larger amount of oxygen, in a given space of time; and, since the intensity of combustion depends largely on the amount of oxygen supplied, the compressed air will produce more burning, and therefore a higher temperature, than air which is not compressed.

Q. 34. Are the doors and valves shown in the drawings of this patent and mentioned in its specification essential parts of its mechanism or not?

A. They are essential to this invention, for without them a workman would not be able to pass into the chamber A with safety, nor would he be able to remain there without danger, for, should the blast cease for any reason, he would be liable to be suffocated by the returning gases were not a valve provided to let in fresh air.

Q. 35. Then am I to understand you as saying that all these chambers, doors, and valves are necessary parts of the mechanism described in the Devaux patent or not?

A. They are essential parts of the apparatus.

Q. 36. Are the objects to which these two blasts—that of the Devaux and that of the Holbeck & Gottfried—are applied analogous or not?

A. The objects are not only not analogous, but entirely opposite to each other.

Q. 37. Please state your reasons for saying they are not analogous.

A. The object of the Devaux patent is to increase combustion, and so raise the temperature of a smelting furnace. To accomplish this purpose as much free oxygen as possible should be present in the hot blast. In the Holbeck & Gottfried patent it is not to produce combustion at all, but simply to melt pitch and heat the barrel, and were combustion to be produced by the blast the object of the patent would be defeated; hence as little free oxygen as possible should be present in the blast. The object of the one blast is then to promote burning; in the other this is to be avoided; in the one free oxygen must be present; in the other it is better absent.

Q. 38. Is this Devaux patent well calculated to accomplish the inventor's object or not?

A. It is not calculated to produce the object of the inventor, since the blast of air, in passing through the fire used to heat it, would lose so much of its free oxygen as not to support combustion in the smelting furnace in an efficient manner.

Q. 39. Could the mechanism described in the Holbeck and Gottfried patent be used to accomplish the object of Devaux' invention or in connection with smelting furnaces to promote combustion in any manner?

A. It could not be used, since in the Holbeck and Gottfried apparatus the blast is deprived largely or wholly of its free oxygen, and hence would not support the combustion which is necessary in a smelting furnace.

Q. 40. State whether or not you find the invention described in this Holbeck and Gottfried patent in this Devaux patent,
147 giving your reasons for any opinion you may express.

A. I do not. There are three reasons why they differ. In the first place, the mechanical means of producing the blast in the Devaux patent, with its chambers, air-tight seams, and valves, are quite unlike the simple fan and pipe of the Holbeck and Gottfried apparatus. In the second place, the Devaux invention uses air under considerable pressure, which would cause a considerable amount of unconsumed oxygen to pass through the first fire, and while this is not sufficient to support combustion efficiently, yet it would tend to produce the oxidation or burning of such a substance as pitch or the interior of a barrel. In the third place, the Devaux apparatus has for its object the increase of combustion, while the Holbeck and Gottfried patent the melting of pitch without its combustion.

Q. 41. Look at this specification of English letters patent, dated September 11, 1828, to J. B. Neilson, as found in Webster's Patent Cases, on page 273, and state briefly what that invention was for and whether or not that patent contained the invention shown in the Holbeck and Gottfried patent, substantially or otherwise.

A. The object of the Neilson patent was to produce a blast of heated air, so as to increase the rapidity of combustion in a smelting furnace. It does not contain the invention shown in the Holbeck and Gottfried patent.

Q. 42. Look at the specifications and drawings of these patents—one to J. P. Benoit, dated October 26, 1869, No. 96076; and one to Henry Lehmann, No. 171672, dated January 4, 1876; and one reissued to Henry Lehmann, April 9, 1878, No. 8168—and state whether or not they embrace the invention of the Holbeck and Gottfried patent, so far as regards its first and second claims.

A. They embrace the invention of the Holbeck and Gottfried patent, so far as its first and second claims are concerned.

Q. 43. Do those patents produce the same kind of a blast, and does such blast produce the same effects, as the one provided for in the Holbeck and Gottfried patent, or not?

A. They produce exactly the same kind of a blast, and the blast produces the same effect as in the Holbeck and Gottfried patent.

CHICAGO, *May* 9, 1879.

Q. 44. Have you witnessed any practical operation or use of the Holbeck and Gottfried blast in the pitching of casks or barrels, and

have you made any experiments in reference to such blast? If so, please state what such use and experiments were, and all about their results.

A. On the 31st of December, 1878, at about eleven o'clock in the forenoon, I visited Mr. Gottfried's brewery, and saw a practical operation of his machine in pitching puncheons. These puncheons which were being pitched were quite large, being about six feet in height. The orifice through which the hot blast entered the barrel was about four inches in diameter, and the blast as it escaped from it was so highly heated as to seem like a tongue of fire. This blast being directed into the puncheon fully heated it in one minute, notwithstanding the fact that the puncheon had been recently washed, therefore taking more time to heat to a sufficient degree to receive a new coating of pitch.

While the blast was playing into the puncheon no combus-
148 tion was discernible in it, owing to the absence of free oxygen in the blast; as soon, however, as the blast was removed and the free oxygen from the outside air allowed to enter, so highly heated was the interior of the puncheon that it immediately took fire and burned with active flames. The puncheon would undoubtedly have been consumed had not the opening been closed, thus shutting off the free oxygen.

After witnessing the pitching of the puncheon I tried two or three experiments to get an idea of the temperature of the blast. A bar of iron fully a quarter of an inch thick was held about a foot and a half or two feet from the orifice of the blast, and was heated in about a minute to that degree of redness that corresponds to a temperature of not less than 1,300 degrees Fahrenheit. The blast, therefore, undoubtedly reached 1,300 degrees, and I believe exceeded that. Wood held before the blast several feet off was almost immediately set on fire, the free oxygen of the air causing combustion to take place at this elevated temperature. I have also made experiments at my laboratory to determine at what temperature pitch and wood will ignite in contact with pure air. A piece of hard oak wood was smeared with pitch and placed side by side with a small iron wire. This wire was about one-sixteenth of an inch in diameter. The wood and the wire were then subjected to gradually increasing temperature, until the pitched wood took fire and burned actively. At this time the wire was not visibly red in daylight. This experiment convinced me that, in contact with pure air, pitched wood will take fire at a temperature much below the temperature of the blast I witnessed at Mr. Gottfried's brewery. I verified this fact by several experiments and in more than one way.

Q. 45. Have you made any tests to determine the temperature at which pitch will become melted so as to accomplish the object of pitching barrels? If so, state what they were, and all about their results.

A. A sample of pitch was obtained and experimented with. At 150 degrees Fahrenheit, it was as tenacious as thick molasses, and it did not become sufficiently melted to accomplish the object of

pitching barrels short of 340 degrees Fahrenheit. At that temperature it was about as fluid as milk.

Q. 46. At what temperature would a blast of pure air, like that provided for in the Davison and Symington patent, consume an ordinary beer cask or barrel?

A. I do not know at what temperature exactly, as it would depend entirely upon the wood of which the cask was made, and its dryness. It is stated, however, that wood begins to oxidize with considerable radidity at 320 degrees, Fahrenheit. I believe that at a temperature of 1,000 degrees almost any kind of wood would be in active flames.

Q. 47. What effect, if any, would a blast of pure air, like that of the Davison and Symington patent, have on the pitch when heated to a temperature sufficient to heat barrels for pitching, or to that temperature which you say the blast reached when you witnessed the operation at Gottfried's brewery?

A. If that blast had been pure air I believe the pitch would have been injuriously affected. We know that pitch and almost all resinous substances are oxidized or their properties changed
149 by contact with hot air. The pitch would not be oxidized by the Holbeck and Gottfried blast.

Q. 48. In your opinion would it be possible to use a blast of pure air like the one mentioned in pitching barrels at the temperature which you say the Holbeck and Gottfried blast reached at the time you visited Mr. Gottfried's brewery?

A. I do not think it would be possible without consuming the barrel.

Q. 49. In pitching small kegs how large is the orifice of the discharge pipe through which the blast is introduced and how would the temperature of the blast correspond with that of the blast which you saw used in pitching puncheons and which you say must have reached a temperature of at least 1,300 degrees?

A. The discharge pipe used in pitching kegs was seven-eighths of an inch in diameter; the blast must therefore be hotter when compressed in this small compass than when coming from the larger orifice used in pitching puncheons.

Q. 50. Have you made any efforts to procure a pyrometer to measure the temperature accurately of the Holbeck & Gottfried blast when used in pitching barrels? If so, state what efforts you have made and with what results.

A. I have sent three times to Philadelphia to procure an accurate pyrometer for the above purpose, but have failed to get one that was reliable or of value for this purpose; I do not know where else I could get an accurate one for this purpose.

Q. 51. Look at this drawing now shown you, marked "Exhibit Stelcener," and state whether you understand the machine it represents; and, if so, describe its manner of operation.

A. I understand the drawing; it consists of a revolving fan connected with a furnace, from the upper part of which a pipe leads to the cask to be pitched; from another opening in the cask a pipe leads to the revolving fan; if, now, fuel be placed in the furnace and

the fan worked the products of combustion will pass into the cask and then back again through the return pipe to the fan and be again driven through the furnace.

Q. 52. Mr. Beck, whose deposition has been taken on the part of the defense, describing the operation of this machine, says that it produces "a constant circulation of the air from the cask to the blower, from the blower through the furnace into the cask until the air is hot enough," and that the object of thus having the air come back from the barrel to the blower is "to attain a greater heating of the air in the barrel, to heat the same air several times so that it gets quicker hot, and at the same time save some fuel;" he also says "the heat coming from the barrel to the blower is carried back to the furnace under the grate. The hot air goes from the furnace into the cask and escapes from the cask through the pipe at the bottom into the fan and then back again into the furnace through the grate; the pipe and the blower are tight." Now, state how a machine constructed and used according to this description would operate and whether or not it would be capable of producing a hot blast that could be used in pitching barrels, giving your reasons for any opinions you may express.

150 A. It is well known that the products of combustion are incapable of supporting further combustion. Carbonic acid gas, which is the most abundant product of combustion of most fuels, extinguishes combustion more perfectly than almost any other substance, not even excepting water. Since, in the above-described machine, the products of combustion, which would be composed largely of carbonic acid gas, are supplied to the fire, the combustion in the furnace would rapidly be extinguished. The fire in the furnace could not burn during more than a few revolutions of the fan, the absence of free air and the presence of carbonic acid gas putting it out. The machine, therefore, if constructed as described above, could not be used successfully for heating the interior of a cask. The using over again of the heated products of combustion, instead of increasing the temperature of the blast, would very greatly diminish it by retarding and even entirely preventing the combustion in the furnace.

Q. 53. State whether, in your opinion, the invention represented by this drawing contains the invention of the Holbeck & Gottfried patent.

A. In my opinion it does not. The blast supplied to the furnace of the Holbeck & Gottfried machine is pure air, which supports combustion energetically, and consequently gives off a very highly heated blast. In the apparatus described the furnace is supplied with the products of combustion which could not keep up the burning of the fuel, and consequently the blast given off would be either very little heated or not at all.

Q. 54. The fan or blower shown in this drawing appears to be tight, and is so described by Mr. Beck. Does this circumstance have any effect on the fire or blast produced; if so, what?

A. The fan, being tight, as described, would force into the furnace necessarily only what comes to it through the pipe which connects it

with the cask. As the cask would, by a very few revolutions of the fan, become filled with the products of combustion, nothing but these same products of combustion would be supplied to the furnace fire, which would necessarily be extinguished, both from lack of free oxygen and from the presence of carbonic acid gas. More or less steam generated in the interior of the cask would also be thrown into the fire, and, in the absence of free oxygen, would lower the temperature of the fire. The generation of steam, however, is of not much consequence except in reducing the temperature of the fire.

Q. 55. If coke be the fuel used will the blast of the Holbeck & Gottfried or Beck machine contain a large amount of carbonic acid gas or not?

A. Coke being composed chiefly of carbon, the product of its combustion is almost entirely carbonic acid gas. The blast coming from charcoal, which is also nearly pure carbon, would likewise be highly charged with carbonic acid gas. If the fuel used were wood or soft coal the amount of carbonic acid gas in the blast would be somewhat less, since these substances contain a less proportion of carbon than coke or charcoal. Soft coal and wood contain hydrogen in addition to their carbon, and this in burning would take oxygen from the blast equally with the carbon, but would produce water as its product of combustion. In either case the products of combustion would not support further combustion.

151 Cross-examination by Mr. LYNDE:

X Q. 56. Have you ever seen any barrels heated preparatory to being pitched except at Gottfried's brewery, in December last, as stated by you?

A. I have seen barrels pitched twice—that day and one other time.

X Q. 57. Do you know whether the temperature then used was of the temperature ordinarily used for that purpose?

A. I believe it was; I was told so by the men who were working the machine.

X Q. 58. Would you call the stream of flame which you saw emitted from the orifice a blast of highly heated air?

A. Not a blast of highly heated air, but a highly heated blast of the products of combustion.

X Q. 59. Do the products of combustion make a flame?

A. Certain products of combustion when highly enough heated produce flame. All flames are simply very highly heated products of combustion that is more or less complete.

X Q. 60. About how long was the stream or flame which you saw emitted from the orifice of the discharge pipe at the time you saw the operation spoken of?

A. I judge it was from four to six inches.

X Q. 61. How near was the puncheon to the furnace?

A. I judge it was two or three feet from it.

X Q. 62. Do you know whether or not there was a large percentage of free oxygen in the blast which you saw at Gottfried's brewery?

A. It could not have contained much, if any, free oxygen, for air, which contains only 20 per cent. of free oxygen, loses all or nearly all of it in passing through an active fire in a close furnace.

X Q. 63. Do you think that a beer barrel would oxidize at a temperature of 320 degrees when applied a short time so as to be materially injured? I now refer to air at the temperature named.

A. If the temperature named were not exceeded and were applied for only a short time the amount of oxidation produced would not materially injure the keg.

X Q. 64. Do you not think that a blast of hot air might be introduced into a beer barrel at a temperature considerably above 320 degrees long enough to heat the same for pitching purposes without injuring either the barrel or the pitch?

A. If the blast of pure air were hot enough to heat the barrel rapidly it would produce injurious oxidation both of the keg and the pitch. A blast of lower temperature applied for a considerable length of time would occasion much less injury.

X Q. 65. Do you not think a blast of pure air might be used in pitching barrels at a temperature of, say, 500 or 600 degrees without material injury either to the barrel or the pitch?

A. If the blast as it entered the barrel were not hotter than the temperature mentioned its heat would be so reduced by spreading through the cask that it would not materially injure it.

X Q. 66. You have said that the Davison and Symington English patent provides for a blast of pure air; is that correct?

A. It is correct. Steam is, however, sometimes used with the air.

X Q. 67. Does not the patent also provide for the use of any other sort of heated air?

A. I believe it does.

152 X Q. 68. You have stated that the Davison and Symington invention is admirably adapted for the purpose of cleansing casks, because the free oxygen of the blast would burn out the impurities. Is it true that this patent contemplates the use of a hot blast for that purpose—for the purpose of burning out the impurities?

A. The manner in which the air acts is not stated in the patent; simply the object aimed at, not the means. It is true, however, that the hot air used would largely effect the object desired by oxidizing the impurities.

X Q. 69. Is it not stated in the patent that in cleansing casks all matters of a solid nature which had collected on the inside are to be removed by means of a machine, which is described?

A. It is so stated. The mechanical means used, it is true, remove the majority of adhering impurities of the cask, but those which have soaked into the pores and crevices of the wood cannot be taken off by mechanical means, and the hot air is employed to destroy them by oxidation and otherwise.

X Q. 70. In the drawings of the Holbeck and Gottfried patent, now before you, the air blast is represented as being taken into the furnace above the fuel instead of beneath the grate; may not this be considered as one of the modifications referred to in the Davison

and Symington patent, remembering that the patent is not limited to the use of pure atmospheric air?

A. In the Davison and Symington patent the air is heated by being passed through heated tubes, and therefore is never in direct contact with the fire. I think, therefore, the two blasts are quite different.

X Q. 71. But does not this Davison and Symington patent provide for the use of a current of hot air which is not pure atmospheric air?

A. It provides for any kind of air; but, as I understand it, it must be heated in the manner described, by passing through hot tubes.

X Q. 72. Then the real difference between the Davison and Symington and the Holbeck and Gottfried inventions consists, as I understand you, in the different methods which are used for heating the air or gases which are introduced into the kegs or casks; is that correct?

A. There is, in addition, a different object in view—one being to pitch barrels, the other to cleanse them. The Davison and Symington patent also states that they contemplate the use of ordinary air or any other air that will produce like effects. Since the gases used in the Holbeck and Gottfried patent would not produce the same oxidizing effects as ordinary air, it is evident that the two patents differ in the nature of the air employed.

X Q. 73. Is there anything in this Davison & Symington patent about oxidizing the interior of the casks or matters therein?

A. The object of the patent is stated and not the chemical manner in which it is produced. It is known that when we expose any object to a current of hot air for the purpose of removing impurities from it the object is accomplished partially by the oxidation of those impurities. There is nothing in the patent, however, about this oxidation.

X Q. 74. Would not a current of air, produced as shown in the drawings of the Holbeck & Gottfried patent, have the effect when introduced into a cask of cleansing, purifying, and sweetening the same?

153 A. I cannot say certainly whether it would be entirely efficient. The heat of the blast would decompose the impurities, but I doubt whether they would be efficiently removed, owing to the absence of free oxygen.

X Q. 75. Then the Davison & Symington blast accomplishes something more, in your opinion, than is accomplished by the Holbeck & Gottfried invention?

A. If both blasts were used in cleansing casks the Davison & Symington patent would accomplish more than the Holbeck & Gottfried invention.

X Q. 76. Would not pitch and also the interior of a cask be injured by a blast in which there was little or no oxygen, the temperature being such as that of the blast which you saw at Gottfried's brewery? In other words, does not intense heat injure both pitch and wood, oxygen being absent?

A. Intense heat alone will injure both pitch and wood; but if free oxygen be also present the injury is far greater, the combustion of both pitch and wood ensuing.

X Q. 77. You state in your direct examination: "The chemical constituents of this blast are nitrogen, carbonic acid gas, highly heated steam, and perhaps a little unconsumed oxygen; whether the latter is present or not would depend upon the regulation of the blast of entering air." How would it depend upon the regulation of the blast of entering air?

A. If a very large amount of air were to be forced into the furnace fire and the quantity of fuel present were small, there might be a somewhat greater amount of oxygen forced in than could be used up by the burning fuel in its rapid passage through the furnace. In this case a little free oxygen would be present in the blast proceeding from the furnace. That this, however, does not often happen is proven by Bunsen's experiments with blast furnaces, where, between two and three feet only from the entrance of the blast of air, no more free oxygen could be discovered.

X Q. 78. Where do you find the statement of Bunsen's experiments—in what book?

A. I have consulted so many books on this subject that I cannot state positively in which it is found. I believe, however, either in Miller's or Brande and Taylor's chemistry.

X Q. 79. How were Bunsen's experiments tried—in a furnace containing fuel and melted ore with a Neilson blast, or otherwise?

A. The particulars of the experiment are not given; only the results to show the rapidity with which free oxygen is taken from air when forced through burning fuel.

X Q. 80. Does he give the degree of heat that is necessary to consume the gas at that distance?

A. The temperature is not given.

X Q. 81. Would it make any difference in the quantity of oxygen that would pass through the furnace in the Holbeck & Gottfried patent whether the cold blast entered the furnace above the grate, as shown in the drawings, or below the grate?

A. I think it would. There would probably be more chance of free oxygen being in the blast if the air entered above.

X Q. 82. Does the drawing represent the air as passing through the fuel at all?

A. As to the drawing only, it represents the air forced in through the upper part and above the fuel.

154 X Q. 83. If the blast were applied as represented in that drawing would any considerable part of the oxygen of the air be consumed in passing through the furnace?

A. I believe the greater portion would be consumed, for there is no other means for air to enter, as shown in this drawing; consequently the combustion, both of the fuel and of highly heated combustible gases arising from it, would depend upon the oxygen of the blast.

X Q. 84. The oxygen that is consumed in that case would be consumed in flame, would it not?

A. The oxygen used in burning up the combustible gases would produce flame.

X Q. 85. Would there be any oxygen consumed in that case except in burning the combustible gases?

A. Some would be consumed by contact with the solid fuel, for a part of the blast passes through the upper part of the fuel.

X Q. 86. How would it be consumed by contact with the solid fuel?

A. It would unite with the carbon, producing carbonic acid gas.

X Q. 87. Would the quantity of oxygen remaining in the blast depend upon the quantity of fuel the air passed through?

A. Other things being equal, it would.

X Q. 88. What do you mean by other things being equal?

A. The character of the fuel and the rapidity and volume of the blast.

X Q. 89. Is there anything in Gottfried and Holbeck's patent in regard to the quality or kind of fuel or the rapidity or volume of the blast?

A. I do not remember that anything is said upon these points.

X Q. 90. Professor, you say in your direct examination: "The blast, as produced according to the specification, would be free from any quantity of oxygen that could cause further combustion to take place. Oxygen being essential to combustion, no burning can take place where it is absent." What is there in those specifications that warrants you in saying that the blast would be free from any quantity of oxygen that could cause further combustion to take place?

A. The specification describes two methods of using the blast, either directing it below the grate bars or above them. In the latter case it directs that the blast be forced through the fire; in either case the air passing through the fire would necessarily be deprived of most of its free oxygen. Air cannot be brought in contact with burning fuel without having its oxygen more or less completely removed.

X Q. 91. Cannot the air be brought in contact with burning fuel with such rapidity and in such volume as not only to prevent the consumption of any considerable proportion of the oxygen of the air, but to prevent any combustion manifesting itself in flame?

A. If the volume of the blast were very large and powerfully driven and the quantity of the fuel small, combustion might be entirely extinguished by the lowering of the temperature of the fuel below its ignition point.

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X Q. 92. Do you find anything in the specification and claims of the Holbeck and Gottfried patent in regard to the volume of the blast or the rapidity with which it should be driven or the quantity or kind of fuel to be used?

A. I believe they say nothing upon these points.

155 X Q. 93. Does not the efficiency and character of the blast depend entirely upon these points?

A. They do not depend entirely upon these points, but are certainly much influenced by them.

X Q. 94. If you are right in your answer to my question where you say "If the volume of the blast were very large and powerfully driven and the quantity of fuel small, combustion might be entirely extinguished by the lowering of the temperature of the fuel below its ignition point," how can you now say that the efficiency of the blast does not depend entirely upon the volume of the blast and the rapidity with which it is driven and the quantity of fuel used?

A. In such an extreme case, where the fuel was so small and the volume and force of the blast so great that combustion would be extinguished, the efficiency of the blast would be entirely destroyed.

X Q. 95. You have testified in regard to your seeing the practical operations of Gottfried's machine at his brewery on the 31st of December, 1878. What was the capacity of the furnace used on that occasion and what quantity of fuel was the air forced through?

A. I did not make any measurements of the furnace, but judge it was about three feet high and two feet in diameter; I think the fuel was about two feet in depth and laterally filled the furnace.

X Q. 96. What kind of fuel was used on that occasion?

A. Coke.

X Q. 97. Was there any more combustible substance used with the coke for the purpose of making intense heat?

A. The furnace was fed twice during my visit and nothing but coke was used.

X Q. 98. What was the size of the blower used on that occasion?

A. I did not examine the blower particularly.

X Q. 99. Can you give us any information in regard to the volume or rapidity with which the air was forced through the furnace?

A. The tin pipe bringing the air to the furnace was about three or four inches in diameter, I think; as the blast passed out of the furnace with sufficient force and rapidity to be projected three or four feet into the air, I infer that the blast of air supplied must have been driven with considerable velocity.

X Q. 100. What was the length and size of the connecting pipe from the furnace to the tun or cask?

A. Its diameter at its outer extremity was about four inches and it was about two or three feet long, I should think.

X Q. 101. What was its diameter at the furnace?

A. Probably six inches.

X Q. 102. How large was the cask used?

A. The casks were large puncheons holding thirty-five or forty barrels.

X Q. 103. How was the pipe inserted in the cask?

A. Through an opening in the head of the cask called the manhole; the opening was about nine by fifteen inches.

X Q. 104. Was this hole where the pipe entered the cask closed in any way around the pipe?

A. It was not.

X Q. 105. Do I understand you that this opening in the cask, nine by fifteen inches, was left entirely open for the passage of the air, except so much of it as was filled by the pipe, four inches in diameter.

156 A. The diameter of the pipe was greater than four inches where it entered the puncheon, the cask being drawn up onto the pipe. There was nothing, however, except the pipe to fill the opening. I should state, also, that the orifice of this pipe was four inches in diameter. This does not include the thickness of the material of which the pipe was made.

X Q. 106. How near to the furnace was the cask drawn up?

A. I think it was probably about two feet or a little more from the furnace.

X Q. 107. Of what material and how thick was the pipe connecting the barrel to the furnace?

A. Of iron, and about a third of an inch thick at its outer end.

X Q. 108. Will you tell us now how many square inches there were in that opening nine by fifteen inches?

A. About a hundred and thirty-five square inches.

X Q. 109. How many inches did the pipe occupy?

A. I should say about fifty square inches. As the pipe enters the opening obliquely it fills more of the space than if it entered straight.

X Q. 110. At what angle did the pipe enter the cask?

A. I think at an angle of about twenty-five or thirty degrees.

X Q. 111. How was the cask placed at the time? Was the manhole at the lower side, or where was it?

A. At the lower side.

X Q. 112. Then I understand you that there was an opening in the cask of eighty inches where the pure air could enter at the time that the operation was performed. Am I right?

A. There was such an opening, but pure air did not and could not enter, for the space about the pipe was occupied by the gases as they escaped from the cask, effectually preventing the ingress of air. That this is true was shown by the fact that a strong outward current of mixed steam and gases filled the entire space not occupied by the pipe.

X Q. 113. This blast was of such force that it projected a flame of burning gases from the end of the pipe for two or three feet, was it not?

A. The flame extended only three or four inches, but the stream of hot gases extended several feet.

X Q. 114. Do you mean to be understood that the temperature of the blast as it came from that pipe was 1,300 degrees Fahrenheit?

A. From the experiment I performed upon it, I believe it was.

X Q. 115. Do you think that degree of heat is either necessary or prudent to be used in pitching barrels, even with Gottfried & Holbeck's machine?

A. In order to pitch puncheons or casks of the size stated above, quickly, the temperature stated would be desirable, nor with this blast would it produce injurious effects upon the casks to any great degree; for, although the high temperature used would probably cause a superficial charring of the wood with which the blast came in immediate contact, yet this action would be only superficial, for the charred material being a bad conductor of heat would effectually prevent any deeper action; and, as the blast contains no free

oxygen, this superficial char would not be burned off, but would remain as a protection from further action of the heat during the continuance of the blast.

X Q. 116. What would be the effect of that degree of heat upon the pitch which coated the inside of the puncheon? Would
157 it not take from it all of its vitality and adhesive properties?

A. You refer to the old pitch which lines the inside of the cask. Where the blast came in immediate contact with it, undoubtedly it would be injured. The temperature of the whole interior of the cask was, of course, not as high as the blast itself.

X Q. 117. How long a time do you suppose it would take to heat the entire interior of the puncheon up to the temperature of the blast with the volume and force of blast you have described as used on that occasion?

A. It would be impossible ever to heat the entire interior of the cask fully up to the temperature of the blast, as more or less heat is radiated and lost.

X Q. 118. What do you mean by heat being lost?

A. It is absorbed by the cask and its supports and radiates in space.

X Q. 119. Then the hot air that is forced into that cask is absorbed by the atmosphere in the cask until there is an equilibrium in temperature in the cask, is it not?

A. That is true, except that the gases immediately about the orifice of the blast would always remain somewhat hotter than the remainder.

X Q. 120. There would no heat escape from that cask that was forced into the cask, except that which passed out of the man-hole by the side of the nozzle of the hot blast?

A. There would, in addition, be the loss by radiation from the cask that I have spoken of before.

X Q. 121. What do you mean by radiation from the cask? That the heat would pass through the cask into the outer air?

A. Yes, sir.

X Q. 122. Did you not state a few moments ago that that blast, in charring the wood in which it came in contact, would prevent the heat from further acting upon the barrel?

A. I made that statement in reference to the parts of the cask brought into immediate contact with the blast; but even were the whole interior to be charred, while the carbon thus formed would poorly conduct the heat to the sound wood below, yet it would not prevent a certain amount of heat passing through and being radiated. While charred matter is a very poor conductor of heat, it does not entirely prevent its passage in small amount.

X Q. 123. Do you think that blast was applied to the puncheon at that degree of heat for one minute when you saw those operations at Gottfried's Brewery?

A. I timed the operation; it was just one minute.

X Q. 124. Was the puncheon heated on the outside to any great degree?

A. I did not feel of it; but, as the workmen manipulated it with their bare hands, it could not have been very hot.

X Q. 125. Did you test the quantity of oxygen that was in that blast as it came from the furnace?

A. I did not determine the quantity.

X Q. 126. Could you not have ascertained, if you had wanted to, whether there was any oxygen or any considerable quantity of oxygen in that blast without any great trouble?

A. It would have been quite troublesome to have made an accurate analysis of the gases composing the blast. I was thoroughly convinced without this that there was no quantity of free
158 oxygen present; for, while the blast was playing into the cask, no combustion was visible; while, if free oxygen had been present, burning would have occurred at the temperature used. This was shown to be so; for, as soon as the blast was stopped and free oxygen from the air allowed to enter, the interior of the cask about the opening burst into active flames.

X Q. 127. Was not the whole of the interior of the cask filled with flame as soon as the blast was withdrawn and the pure air let into the cask?

A. No, sir; the air could enter only a short distance, the gases composing the blast still filling the greater part of the puncheon. The combustion took place only about the opening where free oxygen was present, and before air could penetrate further into the cask the opening was closed.

X Q. 128. You say it would have been exceedingly troublesome to have made an analysis of the gases which composed the blast. Could you not very easily have ascertained by actual experiment whether it contained oxygen enough to support combustion without any further analysis of the gases composing the blast?

A. I did ascertain that there was not enough free oxygen in the blast to support combustion by the experiment I spoke of above. Had there been enough oxygen in the blast to support combustion the highly combustible pitch in the interior of the cask would certainly have taken fire, which, however, was not the case.

X Q. 129. Was the puncheon you saw this experiment made upon a new puncheon or one that had been previously pitched?

A. It had been previously pitched.

X Q. 130. Did you examine the inside of that puncheon after the blast and before new pitch was poured in and see the effect the blast had upon the pitch and the inside of the cask?

A. I did not.

X Q. 131. Do you know whether the life had been taken out of the pitch or the cask burned—I do not mean by flame—by the heat of the blast?

A. I do not from actual inspection, but can state positively from chemical knowledge and from the observations I made that no combustion either of the pitch or wood took place.

X Q. 132. In what sense do you use the word "combustion" there?

A. By it I mean rapid combination of oxygen with another substance.

X Q. 133. Is the word "combustion" confined in its meaning to the combination of oxygen with other substances?

A. In the strictest chemical acceptation of the word combustion refers to the union of the atoms of any two elements, but in every-day life, and in the great majority of cases in the labratory also, we mean by combustion rapid oxidation. Unless otherwise specified chemists use the word combustion with this latter acceptation.

X Q. 134. What is the effect and result of rapid oxidation causing combustion?

A. Physically, we get heat and light; chemically, certain substances known as the products of combustion, which vary with the combustible used.

X Q. 135. Is there anything consumed by that combustion?

A. The combustible substance by uniting with the supporter of combustion has its form changed. This we call being consumed. It is not, however, destroyed; the condition in which it exists is changed.

159 X Q. 136. Oxidation, then, is the combining of the oxygen with the matter acted upon, thereby forming a new substance, and, when rapid, always throwing off heat and light; is it not so?

A. It is; only that heat is produced not only in rapid but in slow oxidation as well.

X Q. 136½. Now, heat and light are the only things thrown off by this oxidation, are they not?

A. They are the physical results, and, with the exception of the products of combustion, are the only things given off; some claim that electricity is also evolved.

X Q. 137. What is the effect of a hot blast of pure air in heating the interior of a cask for the purpose of pitching?

A. If the blast were hot enough it would oxidize the wood.

X Q. 138. You mean by that it would combine with the wood and throw out heat and light—in other words, flame—do you?

A. It would combine with the wood, producing heat, and, if the oxidation were sufficiently intense, light and flame; all oxidation produces heat; light is generated only when the oxidation is vigorous.

Q. 139. Well, heat is the object to be attained by the hot blast in pitching barrels, is it not; and the sole and only object?

A. I believe it is.

Q. 140. How does the oxygen in the hot blast of pure air first act upon the pitch that coats the inside of the cask or barrel?

A. It would first melt it and then oxidize it.

Q. 141. Would it dispel volatile gases?

A. Heat, when sufficiently intense, applied to pitch generates from it volatile gases.

Q. 142. Can you state, Professor, what degree of heat is necessary to evolve volatile gases from pitch?

A. In my experiments to determine the melting point of pitch I

found gases began to be given off between three and four hundred degrees; possibly some may be given off below this.

Q. 143. Can you tell us, Professor, what degree of heat is necessary in a hot blast of pure air to cause the volatile gases of pitch to burn in a flame?

A. I cannot state certainly. In my experiments, which I have detailed in my direct examination in this case, I found that pitch took fire at a temperature below that necessary to heat platinum to visible redness in daylight; undoubtedly in this case it was the gases evolved from the pitch that first took fire; I had no means of determining the temperature, but judge it was between eight hundred and a thousand degrees.

Q. 144. Pitch must melt before it can evolve volatile gases to any extent, must it not?

A. I think some gases are given off before the pitch is fully melted.

Q. 145. The pitch in the inside of a cask must be pretty thoroughly melted by the hot blast of pure air before it evolves volatile gases and causes a flame, must it not?

A. If a small part of the pitch were first melted in one part of the barrel it would throw off volatile gases which could burn with flame, even though the pitch in other parts of the barrel were not yet melted.

X Q. 146. That flame would be very likely to melt the pitch on the inside of the whole barrel, would it not, and before it would affect the wood of the barrel if the blast were kept up?

160 A. The flame would certainly melt the pitch, which would then run to the lowermost part of the barrel leaving the wood uncovered and exposed to the action of the flame, and of course the latter would be ignited.

X Q. 147. If the volatile gases evolved by the pitch were ignited and the barrel was immediately closed, would not the flame be immediately extinguished.

A. Not immediately, if a blast of pure air had been used. It would continue to burn until a considerable portion of the oxygen in the barrel had been consumed. How long it would continue to burn would depend upon the size of the flame and the amount of free oxygen in the cask.

X Q. 148. If the flame had not acted upon the wood of the cask before the cask was closed, would it burn the cask so as to injure it?

A. I think not.

X Q. 149. The only injury resulting to the cask or pitch inside of the cask occasioned by the use of a hot blast of pure air results from the ignition of the pitch or cask occasioned by the oxidation, does it not?

A. More injury would certainly be produced if the cask or pitch were to burn in flames, as this would indicate a very rapid oxidation; but slower oxidation, not resulting in actual flame, would also be damaging.

X Q. 150. What effect would be produced by a hot blast of pure air that would be injurious to the interior of the cask or the pitch

where there was no flame? In other words, what injurious effect has the oxidation upon the pitch or cask where there is no flame?

A. The decay of wood is the slow oxidation of it in contact with the air at ordinary temperatures. The same effect would be produced by a hot blast of pure air, only much more rapidly. The wood would be oxidized and injured in strength. Pitch, like all other resinous substances, is easily oxidized and changed in its properties by contact with hot air.

Further cross-examination by Mr. PARKINSON:

X Q. 151. You have stated that you consider the essence of the invention mentioned in the first claim of the patent here in suit to be the "use of heated gases in pitching the interior of barrels." Do you use the term heated gases as synonymous with heated air or as distinguishing heated gases from heated air?

A. I mean the use of heated gases in distinction from atmospheric air.

X Q. 152. Then by heated gases in this connection you mean something different than heated air, do you?

A. I mean something different from ordinary atmospheric air.

X Q. 153. As the term heated air is generally used, does it refer to ordinary atmospheric air or to something different from atmospheric air?

A. It might refer to either. The term air is not infrequently used to designate a gaseous substance.

X Q. 154. I want to know what is the common signification of the term heated air? Is it heated atmospheric air or is it something else?

A. In its commonest acceptation it means common atmospheric air, but it by no means necessarily does so.

X Q. 155. When the term is used scientifically what does it mean?

A. As I have said before in connection with its popular use, so scientifically also the term air refers generally to atmospheric
161 air; but not always, and it is only by the context that we can tell positively what gaseous substance is referred to.

X Q. 156. Does the term air or heated air ever, when properly used, convey in itself any idea which excludes atmospheric air; or, in other words, is this term ever correctly used to convey in itself the idea of other gases than atmospheric air to the exclusion of atmospheric air?

A. The context alone can positively decide this matter, for heated air is not necessarily heated atmospheric air, but may mean any heated gas, the particular kind being determined either by a modifying word—such as "atmospheric," "fixed," "dephlogisticated," &c.—or by the source or origin of the air in question.

X Q. 157. That does not answer my question. The question distinctly excluded from consideration the context and all modifying words and called for the significance of the term when taken by itself. Does the term air or heated air ever convey in itself any idea which excludes atmospheric air; or, in other words, is this term

ever correctly used to distinguish in itself gases other than atmospheric air from atmospheric air, including the former and excluding the latter?

A. The term air without modifying words or context we naturally understand as meaning atmospheric air, although many of the older chemical writers use it by itself to designate any gaseous body.

X Q. 157½. When used in the latter sense it is understood to include with other gaseous bodies atmospheric air, is it not?

A. If it is still used without modifying word or context such would be the case.

X Q. 158. Do you find anywhere in the specification of the Gottfried patent the statement either that it is necessary for the purposes of the invention to deprive the air of its oxygen or that there is any advantage in using a blast that has been deoxygenized, or that it is essential for the purposes of his invention that the air pass up through the fire or through the incandescent coals, or that the blast which enters the cask is deprived of its oxygen before entering? If you find such statements or statements distinctly to the same effect, please quote them.

A. I find no distinct statement in the patent that the air before being forced into the cask must be deprived of its oxygen, but the following sentence points inevitably to that understanding of it. I quote from the specification: "Before filling casks with spirituous or volatile liquids it is necessary to render the casks impervious to air, the most common and probably the cheapest method of doing which has been to flow melted pitch or other substance into the pores and joints of the cask while they are in a heated state, but the difficulties hitherto attending this process arise in consequence of a want of some economical means of heating the casks without burning or seriously charring their inside surfaces." The inventor then proceeds to describe his own method, which does not burn the interior of the cask, and as this non-burning can be obtained only by depriving the air of its oxygen before forcing it into the casks it seems evident that the removal of the oxygen was contemplated and referred to.

X Q. 159. The language which you have quoted is in the preamble of the specification, is it not, and before the description of
162 the mechanism employed by the patentee?

A. It is.

X Q. 160. The statement in your answer preceding the last, to the effect that the non-burning can be obtained only by depriving the air of its oxygen, is based upon what you know outside of the patent, and not upon any suggestion contained in the specification or claims, is it?

A. The patent does not give the scientific reasons for the process described. It tells us what we wish to accomplish and then gives the method of doing it. It does not state that the blast must be deprived of oxygen. That, however, necessarily follows from even a slight outside acquaintance with science.

X Q. 161. I did not ask whether the patent gave the scientific reasons, but whether it stated the fact assumed in your answer, that

the non-burning could only be obtained by depriving the air of its oxygen. Please answer the question categorically. Does it or does it not state that as a fact?

A. It does not make the direct statement.

X Q. 162. Your answer implies that the patent does make that statement indirectly. Quote the language, if there is any in the description or claims of the invention, which indirectly states the non-burning can only be obtained by depriving the air of the oxygen.

A. I have already done so in answer to cross-question 158.

X Q. 163. Then I am to understand that you, as a scientific man, consider the language which you have quoted as equivalent to a statement "that the non-burning can only be obtained by depriving the air of the oxygen," am I?

A. The language quoted, coupled with the description of the process contained in the patent, I regard scientifically as equivalent to the statement that in this method of heating the interior of casks the oxygen must be taken from the air.

X Q. 164. The language which you have referred to as the indirect statement to the effect that the non-burning can only be obtained by depriving the air of the oxygen is the following in the preamble of the specification, is it? "But the difficulties hitherto attending this process arise in consequence of a want of some economical means of heating the casks without burning or seriously charring their inside surfaces."

A. It is.

X Q. 165. The thoroughness of the deoxygenization would depend largely upon the position of the pipe through which the blast entered with reference to the fire, would it not?

A. It would, to a considerable degree.

X Q. 166. It would also depend, to a considerable degree, upon the size of this pipe and the exit pipe, as compared with the size of the furnace, would it not?

A. It would, to a certain extent.

X Q. 167. It would also depend, in some measure, upon the kind of fuel used, would it not?

A. It would, to a moderate extent.

X Q. 168. Do you find the kind of fuel to be used specified in the patent, or any suggestion as to one kind being better than another?

A. I think not.

X Q. 169. Do you find in the patent any suggestion as to the proper size of the blast pipe and exit pipe, as compared with
163 the size of the furnace, other than what is found in the drawing?

A. The only statement I find regarding this point is that the the exit pipe is introduced through an opening in the head of the cask, which opening the specification states "need not be very large."

X Q. 170. That does not furnish any indication of the size of the exit pipe "as compared with the size of the furnace," does it?

A. It does not.

X Q. 171. And there is no suggestion of the size of the blast pipe other than is found in the drawing, is there?

A. I believe not.

Adjourned till 2 o'clock, on Wednesday, June 29, 1881.

JUNE 29, 1881—2 o'clock p. m.

Met pursuant to adjournment.

Present: As before.

X Q. 172. Do you find in the patent any suggestion as to whether it is preferable to have the blast enter above or below the grate, other than as the drawing showing it introduced above the grate may be assumed to represent the preferred form?

A. I find nothing in the patent relative to this point. I would state, however, that in actual practice the blast has always been introduced below the grate whenever I have seen it used.

X Q. 173. The arrangements shown in the drawing would not be so effective in the removal of oxygen as the arrangement which introduces the blast beneath the grate, would it?

A. That would depend entirely upon the amount of fuel in the furnace; if it were well filled with combustible material, as has always been the case when I have seen the apparatus in operation, the layer of fuel through which the air would have to pass would be so great in either case as to remove all or the greater part of the oxygen.

X Q. 174. My question was expressly limited to a case where the arrangement was such as is shown in the drawing. Your answer is based upon the assumption of a different arrangement. Assuming the arrangement of the blast pipe with reference to both the grate and the fuel to be the same as shown in the drawing of the patent, this would not be so effective for removing the oxygen as if the blast was introduced below the grate?

A. If the amount of fuel present in the furnace were no greater than that shown in the drawing (that is, a quantity no more than slightly covering the grate) the introduction of the blast above the grate would not be as effective in completely removing the oxygen from the air as it would if introduced below.

X Q. 175. The deoxygenization of the air would be considerably less thorough with the blast pipe as large in proportion to the diameter of the furnace shown in the drawing than it would be with that pipe one-third as large, would it not, other things remaining the same?

A. The fan revolving in both cases at the same rate, the removal of the oxygen would be less thorough with a pipe of the size shown than with a smaller one.

X Q. 176. Do you understand from the patent whether or not when the furnace is constructed with the blast above the grate, as shown in the drawing, there is during the operation of heating the cask any opening for the admission or escape of air beneath the grate?

A. The patent, I believe, makes no direct statement about this, but I judge from the drawing that no opening below the grate is intended.

164 X Q. 177. Now, assuming the arrangement to be in all respects as shown in the drawing of the patent, would there be any substantial deoxygenization of the blast as it passed from the mouth of the pipe *d* to and through the exit pipe?

A. Even with the conditions mentioned in the above question a very considerable amount of oxygen would be taken from the air, for the drawing shows no other means of supplying air to the fuel except through the blast pipe *d*. Now, since atmospheric air contains only about one-fifth of its bulk of oxygen, and since it is upon this oxygen that fuel depends entirely for its combustion, it is evident that even though a large amount of air be admitted through the blast, and even though the fuel be small in amount, still a very large proportion of the oxygen would be removed.

X Q. 178. What percentage of the oxygen would be removed under the circumstances named in my last question?

A. It would be impossible to say, unless the conditions given were more accurately stated. If the amount of air driven through the furnace and the amount and character of the fuel consumed in a given length of time were stated the amount of oxygen removed could be calculated.

X Q. 179. Please answer the last question, assuming the rapidity of the blast and the kind of fuel to be the same used in the experiment about which you testified in direct examination and the arrangement and proportion of the parts, including the fuel, be the same as shown in the drawing.

A. I cannot answer the question, for in the experiments which I made I did not determine the velocity of the blast nor the amount of air which entered the furnace. The object I had then in view did not necessitate such knowledge.

X Q. 180. Please answer the question, assuming the fan to revolve at the rate of 300 revolutions per minute.

A. In order to answer the question at all it would be necessary to know the amount of air introduced and the amount of coke consumed. The number of revolutions of the fan is but one factor of many governing the amount of air introduced.

X Q. 181. You have been given the exact arrangement and proportion of parts, including fuel, and the kind of fuel used, and the rate of revolutions of the fan. Can you not from this state, approximately, at least, the amount of oxygen that would be removed?

A. I cannot answer the question, as you have not given me the data from which I make the calculation. As I have already stated, we must know the amount of air introduced and the amount of fuel consumed, and you have given me neither. The size of the fan and the number of its revolutions do not alone determine the quantity of air supplied to the furnace. The resistance offered to the passage of the blast through the furnace and the various pipes has an effect.

X Q. 182. I have not stated absolutely the amount of fuel that would be consumed under the circumstances above named, because

it seems to me too clear for discussion that there could be no consumption of fuel under such circumstances; but as your answers assume the contrary, I give you the arrangement and proportion of all the parts, including fuel, furnace, blower, and entrance
165 and exit pipe, the kind of fuel, and the rate of revolution. I did not give you the absolute size of the parts, because I supposed it also clear that the proportion remaining the same the percentage of oxygen removed, if any were removed, would remain the same whatever the scale. You may, however, if it will aid you, assume the exterior height of the furnace to be four feet and all other parts in proportion. Can you not, with the data now given, estimate approximately the percentage of oxygen that would be removed?

A. If you will give me the amount of air that enters and the amount of fuel consumed in any given length of time I will very gladly calculate the precise amount of oxygen removed, but from the incomplete data given above I cannot give you the desired information.

Adjourned till Thursday, June 30, 1881, 2 o'clock p. m.

THURSDAY, *June* 30, 1881—2 o'clock p. m.

Met pursuant to adjournment.

Present: As before.

X Q. 183. Would there be any deoxygenization of any part of the air which did not come into actual contact with the ignited fuel or flame?

A. Probably not. It should, however, be remembered that all fuels give off more or less combustible gases, which, rising above the fuel, create a flame that will deprive the air of its oxygen as effectually as the solid fuel itself. From some kinds of fuel these combustible gases would be so great as to produce a large volume of flame rising high above the fuel and deoxygenating the blast with great readiness.

X Q. 184. Is it not a well-recognized fact that if these gases of which you speak are brought into contact with a larger volume of cold air entering above the fire their combustion is immediately arrested without appreciable deoxygenation, and that in order to get the effect you speak of there must be a draft from beneath and a comparatively thin current of air from above?

A. The entrance of a large blast of air above the fuel or the admission of air below has but very little to do directly with the combustion or non-combustion of the volatile gases given off. Any combustible gas brought in contact with air will be consumed using up the free oxygen if the temperature at which the two meet is sufficiently elevated. Now, whether the blast enters the furnace above or below the fuel, and whether the blast is large or small in quantity, the combustible gases given off by the fuel would be wholly or partially consumed if the temperature in the furnace is sufficiently high; but if the blast in entering should reduce the temperature of the furnace below the proper point, or should the temperature be

reduced by any other means below the point the volatile gases given off from the fuel would fail to be consumed.

X Q. 185. Then I am to understand, am I, that according to your knowledge of the laws of combustion the temperature at which the ascending gases and the incoming current of cold air would meet would not depend in any measure upon the proportion existing between the draft beneath and the volume of cold air from above or upon there being any draft from beneath?

A. I did not make such a statement. I said that the entrance of a large blast of air above the fuel or the admission of air below have very little to do directly with the combustion of the volatile
166 gases. Indirectly, however, both of these conditions might influence the combustion of the gases by affecting the temperature in the furnace, reducing or raising it as the case might be.

X Q. 186. Then you still insist that the introduction of a blast of cold air above the fuel, much larger in volume than the draft beneath, would not directly tend to lower the temperature, and that the introduction of a draft beneath would not tend directly to raise the temperature, do you?

A. I do not still insist upon the conditions of your question, for I never have made such a statement. I have twice stated that the admission of a large blast above or the entrance of air below the fuel has not much to do directly with the combustion of the volatile gases; but that these conditions might influence the temperature of the furnace, and so indirectly the combustion of the volatile gases, I distinctly speak of at the close of my last answer.

X Q. 187. Leaving the court to judge of the effect of your several preceding answers, I ask you again, definitely, does or does not the draft directly affect the extent of combustion of the blast of air entering above by the ascending gases? Please answer by direct negative or affirmative.

A. No; not directly; but, as I before stated twice, it may indirectly by raising or lowering the temperature. It is the temperature only at which a combustible gas meets the air that directly affects its combustion.

X Q. 188. My question 184 did not ask whether the arrest of the combustion would be direct or indirect, but whether the effect would follow. I ask you now again, requesting an answer upon this point directly, whether—other things remaining the same—the effect of bringing to bear above the fire a blast of cold air of large volume, both as compared with the fire and as compared with the draft beneath, would be to diminish, and if the volume of cold air was sufficiently large to substantially arrest the combustion of the gases to which you have referred.

A. An important condition now being introduced in your question, a direct answer can be readily given. Other things being equal, there would be less combustion of volatile gases given off from the burning fuel if a very large blast of cold air were thrown in above it than if the blast were of moderate size. If the volume of cold air thrown in above the fuel were very large, cold, and rapid and the

amount of fuel to heat the furnace very small there might be substantially an arrest of the combustion of volatile gases.

X Q. 189. I had not thought it necessary, in addressing questions to a gentleman of your intelligence, to expressly state, when asking for the effect of a specified change, that your answer was to be based upon the assumption that other things remained the same rather than upon the tacit assumption that other things were to be changed in a way not specified. To avoid misunderstanding, please assume that where I ask the effect of a specified change I refer to that effect by itself—"other things being equal." Now, assuming that the fuel is either coal, wood, or coke, that there is no inlet of air from beneath, that a blast of cold air enters, as shown in the drawing of the patent, having the same volume in proportion to the fuel there shown, and having its only place of egress as there shown, I ask you, first, would it be practicable to start and maintain a sufficient degree of combustion to deoxygenize any considerable portion of the air passing through; second, whether the tendency of that blast of cold air, in the absence of any air from beneath, would not be to quench combustion; third, whether if the blast of cold air were driven under these conditions at a velocity, even approximating that at which the blast was driven in the experiments which you witnessed, it would not almost immediately quench the fire; fourth, if driven at approximately that velocity or even at one-half that velocity it would not pass through the exit pipe before reaching a temperature either sufficient to melt the pitch or to deoxygenize the air?

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A. First, if the blast of air were driven in slowly (as would unquestionably be the case in order to accomplish the object in view), using the proportion of fuel represented in the drawing, it would be perfectly practicable to start and maintain an amount of combustion and degree of heat enough to deoxygenate the blast sufficiently for the purpose in view; second, combustion, unquestionably, would not be quenched if the air were driven in moderately; third, if the velocity of the air driven in above the fuel approached that of the blast which was used under the grate in the experiment I saw, and if, also, the volume of the blast and the amount of fuel were such as shown in the drawing I believe the fire would probably be extinguished; fourth, since, with the conditions given, the fire would probably be extinguished or nearly so, the blast leaving the exit pipe would not probably have a temperature sufficient to melt the pitch or heat the barrel.

Adjourned till July 1, 1881, at 2 o'clock p. m.

FRIDAY, *July* 1—at 2 p. m.

Met pursuant to adjournment.
Present: As before.

X Q. 190. Assuming the conditions as in the last question, would it or would it not, in your opinion, be practicable to raise and maintain the temperature of the blast at sufficient elevation to be successfully operative in the pitching of casks, the operator being at liberty

to vary the revolution of the fan to any extent that might be desired?

A. I believe it would be practicable with the conditions named to raise the temperature of the blast sufficiently to pitch casks. I have no doubt that with proper kind of fuel and regulation of the blast pitching could be successfully carried on.

X Q. 191. How long do you think, under those circumstances, it would take to pitch properly a cask as large in proportion to the furnace as shown in the drawing?

A. I have never tried any experiments to determine this point, but I should judge that if some light burning fuel were used and constantly supplied as fast as used that it would take not more than fifteen or twenty minutes.

X Q. 192. What kind of fuel had you in mind and would it be practicable to replenish the fuel without interrupting the operation of pitching?

A. Small pieces of dry, hard wood I had especially in view, but it might be found by trial that other fuels would answer better. The blast would have to be interrupted only momentarily while fresh fuel was thrown in.

X Q. 193. What would be the course of the draft through this furnace?

168 A. From the entrance pipe *d* the air would strike the fuel and the flame arising from it pass upwards to the exit pipe *d* and thence through the connecting pipe *e* into the cask.

X Q. 194. Would the flame rise against the blast of air entering above it in the absence of a draft beneath?

A. Flame is composed of combustible gases, which are generated by the burning fuel. These gases, being lighter than air, pass upward, whether there is a draft from below or not. However, the incoming blast striking the upper part of the fuel would assist the levity of the combustible gases in causing them to pass upwards.

X Q. 195. The combustible gases which you say would rise are only produced by decomposition of air, are they not, and would not their rising into contact with the incoming cold blast be dependent upon a continuous draft of oxygenized air through the fuel? Would not also the tendency be for the large bulk of air entering through pipe *d* to pass upwards towards the exit pipe without reaching the flame?

A. The combustible gases given off by burning fuel are not produced at all by the oxygen of the air in the majority of cases, but are generated by the action of heat upon the fuel. If oxygen indeed is present, the amount of these combustible gases is smaller than when it is excluded, other things being equal. This is illustrated in the manufacture of ordinary illuminating gas, whether it be made from wood or coal. These substances are heated in closed retorts, from which the air is carefully excluded; otherwise the product of combustible gas would be greatly diminished. The passage of a draft of air upwards through the burning fuel below would positively diminish in just the same way the amount of combustible gases given off, other things being equal. The production, then, of the

combustible gases is not produced by decomposition of air, but by decomposition of fuel. Hence their rising into contact with the incoming cold blast would not be dependent upon a continuous draft of oxygenized air through the fuel. How much of the air entering through pipe *d* would pass upwards towards the exit pipe without touching the flame would depend largely upon the volume of combustible gases given off, and this in turn upon the character of the fuel used.

X Q. 196. Now, please answer the question, which was not about a result which might be produced in a hypothetical case where heat was supplied from some other source than the burning fuel itself, but was limited to the particular case before us. If there were no such contact of air with the fuel as to produce decomposition of the air, in this particular case there being no heat supplied from other sources, would the combustible gases to which you have referred continue to rise? Please answer this by a direct affirmative or negative.

A. The question assumes that there is not sufficient contact of the air with the fuel to allow any combustion whatever to go on, for if there were no abstraction of oxygen from the air, or "decomposition of the air," as the question calls it, there could be no combustion. In that case there would be no heat in the furnace, and no decomposition of the fuel and no combustible gases would arise.

X Q. 197. Assuming the kind of fuel used, that which you would consider most favorable for a machine constructed and used
169 as shown in the drawing, and making the same assumption with reference to the rapidity of the blast, would or would not a large proportion of the blast pass upwards from the inlet to the outlet pipe without coming in contact with the flame? Please answer yes or no.

A. My opinion is, although I have made no experiments upon this point, that a considerable portion of the blast would pass through the furnace without coming into contact with the flame.

X Q. 198. In the experiment you witnessed at Gottfried's yard what kind of a fan was used, what was the shape of the furnace, of what material composed, and where did the blast enter?

A. A rotary fan, of whose make I do not know, was used; I cannot tell you what the particular construction of it was. The furnace, I believe, was cylindrical, made, I think, of iron; I think lined, but I do not know certain, and the blast entered below.

X Q. 199. Are you positive as to whether the interior chamber of the furnace was cylindrical or converging?

A. I cannot say positively. The experiments were performed so many months ago that many of the minor details have escaped me.

X Q. 200. You testified as a witness in the suit of Matthew Gottfried, as complainant, against the Conrad Seipp Brewing Company, a case recently pending in the circuit court of the United States for the northern district of Illinois, as a witness for complainant, did you?

A. I did.

X Q. 201. That was subsequent to your deposition which has been introduced from the Milwaukee cases into the present record?

A. It was.

X Q. 202. In that case you expressed the opinion that a machine made in accordance with patent No. 128,315, issued to Theodore Krausch June 25, 1872, contained the invention described and claimed in the patent here in suit, both as regards the blast and mechanism, did you?

A. So far as the blast is concerned, I expressed that opinion; as to the mechanism, I did not express such an opinion, although some of the principles involved are the same. The following is what I said regarding the machine:

"Looking at the mechanism, I find that the Krausch patent describes a furnace, fan blower, and pipes. The furnace is used for purpose of highly heating the blast; the fan blower is used for increasing the draught of the fire, particularly if not sufficient steam should be on hand to set the steam jet going; the small pipes are used to carry the steam through the furnace and the large pipe of the model, which is detachable, to form the connection between the furnace and the cask and to conduct the blast into the cask.

"As has before been stated, in the pitching of large casks the superheated steam escapes from a small pipe into a larger one, which is connected at one end with the furnace fire and at the other with the cask to be pitched. The steam rushing into the cask creates a powerful suction from the furnace, by which the products of combustion from the fire are forced with the steam into the cask. So far as the apparatus used in pitching casks is concerned, in my opinion, it embodies exactly the same principle as that used in the complainants' apparatus, highly heated products of com-
170 bustion being used in both cases. In the pitching of small kegs, where superheated steam alone is used, the expansive force of the steam in the boiler forcing the blast through the pipes into the kegs is, in my opinion, the equivalent of the fan blower of complainants' device employed for producing a hot blast for the same purpose. Hence, if a fan blower is an essential part of complainants' invention, I think its full equivalent is found and used in the Krausch machine, both in the pitching of casks and small kegs."

X Q. 203. In that deposition you answered the following question as follows, did you, referring to the patent here in suit? "X Q. 3. As I understand your testimony, you stated that in your opinion complainants' patent covers a blast composed of steam only; is that correct? A. Such is my opinion."

A. I did.

X Q. 204. In the same deposition you made the following statement referring to the same patent, did you? "Since it is impossible for their blast to be composed of atmospheric air it is evident that they use the word air not in its limited popular acceptation but in the wider sense in which it is frequently used, even in some chemical works, as meaning any substance whatever in a gaseous condition."

A. I did use such words, following, however, this remark: "In their specification complainants have spoken of their blast as composed of heated air and heated products of combustion, and in their first claim have used the term heated air."

X Q. 205. Is there or is there not some compression of air always caused where a blast of air is propelled by mechanical means through any confined channel; and is or is not that compression increased by any obstruction in the direct course of the blast, and also increased by any increase in the propelling force?

A. There is more or less compression of air when it is propelled through a confined channel; the compression is more or less increased, other things being equal, by obstructions in the direct course of the blast; the compression is also more or less increased by increase in the propelling force, other things being equal.

X Q. 206. In your answer to X Q. 158 the underscoring in your quotation from the patent is not found or indicated in the patent, is it, and the underscoring was introduced by you after some succeeding questions had intervened, was it not?

A. The underscoring referred to is not in the patent, and it, moreover, was put in after some succeeding questions; the reason for this latter was the following: In giving my answer to the notary I laid strong emphasis on these words, thinking that he would indicate that fact; my attention was not directed to the absence of the underscoring until two or three other questions had been put.

Redirect examination by Mr. BANNING:

R. D. Q. 207. Please quote the words immediately following those quoted in X Q. 204.

A. "Hence I conclude that by the term 'heated air' complainants' patent covers the use of any blast composed of such gases as will accomplish the desired object when such blast is applied in any way covered by the patent."

171 R. D. Q. 208. Please state whether, in order to produce a blast that would not burn the casks or kegs, it would be necessary for the fire to remove all or substantially all the oxygen of the air.

A. It would not be; it is a well-known fact, stated by all the chemistries, that a substance cannot burn in air containing even a comparatively small amount of carbonic acid gas. Air containing no more than one-eighth to one-sixth of its volume of carbonic acid gas will extinguish the combustion of a lighted candle. Now, all ordinary fuels in burning produce an abundance of carbonic acid gas; so that if, in heating the blast for pitching barrels, a large portion of its oxygen were still left the carbonic acid gas which it would gather up from the burning fuel would prevent the injurious action of this remaining oxygen.

R. D. Q. 209. Please state whether, in your opinion, a machine constructed exactly like that shown in drawing No. 1, complainants' patent, with the pipe from the fan entering the furnace above the grate, would be operative, practical, and fully successful for pitching

kegs and casks if the fire chamber, as shown in that drawing, were sufficiently filled with coke or other proper fuel?

A. In my opinion it would unquestionably be successful.

R. D. Q. 210. Do you find anything in the patent which prevents the workmen from properly filling the furnace with fuel?

A. I do not; I find nothing in the patent describing the amount of fuel to be used, except an intimation that the furnace is to be well filled, in the following words of the patent: "This air, rushing through the opening *d* and through the fire which is built upon the grate *a*, is allowed to escape through the passage *d'* near the top of the furnace." The underscoring of the words "through the fire" are my own.

R. D. Q. 211. Please state whether you consider there was any patentable merit or novelty in the discovery that a hot blast could be applied practically and successfully to the interior of wooden vessels at the date of Gottfried & Holbeck's invention.

A. In my opinion the discovery that a hot blast could be applied to the interior of a wooden vessel for the purpose of heating and pitching it practically and successfully was novel and patentable.

Recross-examination by Mr. PARKINSON:

R. X Q. 212. How long has it been a well-known fact among scientific men that a blast of air driven through ignited coal or coke could be raised to an extremely high temperature while being deprived of the properties which are necessary to combustion?

A. I cannot say certainly, but it has probably been a good many years.

R. X Q. 213. Has not that information been accessible in scientific works for more than a century past?

A. It probably has been.

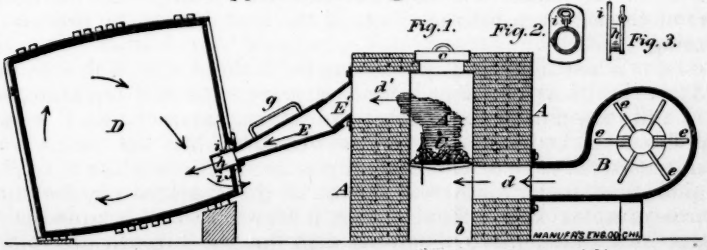
WALTER S. HAINES.

Counsel for complainants states that no recovery will be asked or infringement claimed as to the machine purchased by the defendant Moerlein of Conrad Born, of Columbus, Ohio.

172 COMPLAINANTS' EXHIBIT GOTTFRIED'S CIRCULAR.

Holbeck & Gottfried's Pitch Machine, Patented May 3d, 1864. Manufactured by J. F. T. Holbeck, No. 20 W. Randolph St., Chicago, Ill.

Cut appended to English circular.



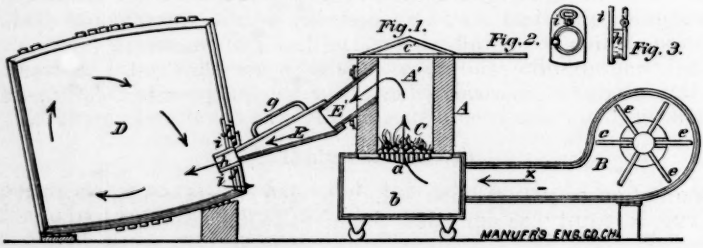
In offering this pitch machine to the brewing public we confidently ask an examination of the simple yet efficient principles upon

which it is constructed, believing that when examined there can be but one opinion in regard to its superiority over every other pitch machine in use.

The accompanying diagram represents an apparatus for pitching barrels, especially beer casks. The advantages which this apparatus offers are unequalled; it saves 100 per cent. in pitch, 150 per cent. in labor, and 200 per cent. in the consumption of the casks.

In order to be better understood we annex the following description of the apparatus, together with the method of using it. Figure 1 represents a longitudinal section made vertically through the middle of the apparatus; figures 2 and three are views of the plate by means of which the aperture of the barrel is closed up in heating.

Cut appended to German circular.



This apparatus consists of a brick furnace (or, if for transportation, an iron one), lined inside with fire-proof brick. The interior of the furnace is a cylindrical cavity, C; near its lower part is placed the grate, below which is a space for the ashes and above it the chamber which contains the fire and which is closed by an iron plate, C, or door. Below is an aperture, *d*, leading into the ash chamber and connecting the fan blower with the furnace. Just below the plate covering the fire chamber there is another aperture, from which projects a tube, E, inclined slightly downwards. On this slides the tube E, the other end of which extends into the cask through the plate, Figs 2 and 3, with which the aperture into the cask is closed.

The plate is drawn on the inside over the hole in the cask and retained in its place by a bar extending across the aperture on the outside between the head of the cask and a handle attached to the outside of the plate. The object of this plate is to protect the aperture of the cask against the effects of the heat during the process of heating.

When there is any pitching to be done start a fire in the
173 cylindrical chamber over the grate, close the top plate, set the fan blower in motion, and let the current pass through the fire from beneath, carrying the heated air into the cask. The fuel consists of coke or charcoal, and must never be allowed to rise higher than to within a few inches of the aperture on the side. Three minutes will suffice to heat a new barrel of a capacity of thirty bbls. sufficiently to combine with the wood the heated pitch that is to be introduced. When the cask is sufficiently heated the

motion of the fan blower is to be stopped, the connecting tube and plate to be disconnected. Four gallons of pitch, which, in the meanwhile, has been brought to the boiling point in a kettle, must be poured into each new barrel of the size of thirty bbls. Close the man-hole with the original gate, and shake and roll the cask about as usual. Old barrels which had been pitched will likewise be sufficiently heated, and all the pitch dissolved (like hot oil) in three minutes, and, if it has been previously ascertained that the inner surface of the cask is sufficiently coated with pitch, it may thus be repeatedly renewed for many years without the addition of any more pitch.

As references we give, among others, the following: H. B. Miller & Son, Chicago; Schmid, Katz & Leverenz, Chicago; Haas & Powell, Chicago; Gottfried & Schoenhofen, Chicago; V. Blatz, Milwaukee, Wis.; G. F. Burkhardt, Roxbury, Mass.

Address letters to J. F. T. Holbeck, machinist, No. 20 West Randolph St., Chicago, manufacturer of all kinds of iron-work for breweries, lithographers' presses, &c. Safe repairing, sheet-iron work, and all kinds of iron-work done to order. Also manufacturer of hames.

Defendants' Evidence.

Examination of witnesses in behalf of defendants, under the 67th rule in equity, as amended, pursuant to the annexed notice.

Present: Ephraim Banning, Esq., for the complainant, and R. H. Parkinson, Esq., for the defendants.

By request of the parties it is ordered that these depositions be taken by question and answer.

CONRAD SEIBEL, a witness of lawful age, produced, cautioned, sworn, and examined on behalf of the defendants, deposeth and saith, in answer to interrogatories propounded to him by R. H. PARKINSON, Esq., of counsel for the defendants, as follows:

Question 1. State your name, age, residence, and occupation.

Answer. My name is Conrad Seibel; fifty-seven; 810, 812 and 814 South Second street, St. Louis, Missouri; copper and sheet-iron work.

Q. 2. Please state whether or not you ever had anything to do with the manufacture and sale of a pitching machine; if so, where, when you began the manufacture and sale, how long you continued it, and how the machine was made and operated.

A. I made the pitching machines and sold them at the
174 city of St. Louis, Missouri. I began the manufacture and sale in 1856. I continued up to this date. This machine here (indicating) is precisely the same that I made first, and am still making. I made them the same in principle, only different in size. It is the only kind that I have made. It is filled with charcoal, and it is then placed in a cask and a hose attatched to this machine and a bellows, and a fire is set to it. They use the bellows to heat up the charcoal, and this to heat up the pitch inside. It is kept on till the whole cask is heated and the pitch melted. It takes not quite a half hour to melt all the pitch in a cask of thirty or thirty-

five barrels. Then the machine is taken out and the cask closed and rolled to spread the pitch all around. About five or six or ten casks are placed in a row, the bellows (regular blacksmith bellows) placed about in the middle—that is, about in front of the middle cask with a hose of about twelve feet in length, having one end attached to the nozzle of the bellows and the other end to the pipe entering the bottom of the pan containing the fire. The pan is then inserted through the man-hole in the cask, the charcoal having been previously lighted, and the wind is blowed into the machine with the bellows to get a faster heat, and this is continued until it is hot enough to melt the pitch. There is old pitch in the cask when the cask has been previously used. This is melted by the heat, and new pitch is put in after the machine is taken out. The new pitch is already melted when they put it in. The man-hole is left open while the machine is in the cask—that is, until it gets warm, then the machine is taken out and the man-hole is closed.

I first saw the machine used in this way in 1856. I have a book showing the parties to whom I sold. According to my books, which I here produce, I sold the following machines: The first or experimental machine was made in 1876; January 10, 1857, I sold one to Zoller & Co., St. Louis; December 8, 1858, I sold one to Thinkeo Bros. & Co., St. Louis, Missouri; November 23, 1858, I sold one to Hess & Co., of St. Louis, Missouri; November 23, 1858, I sold one to Adam Lemp, of St. Louis; November 5, 1857, I sold one to Stachlin, of St. Louis; January 30, 1858, I sold one to Steinhauler, of St. Louis; December 9, 1857, I sold one to Julius Winklemeyer, of St. Louis; December 13, 1859, I sold one to Longguemais & Co., of St. Louis; January 2, 1859, I sold one to Joseph Schaider, of St. Louis. These sales are given from my books, the entries being made at the time of the sales. I sold about the same time to other brewers not mentioned. I have continued to sell them up to the present time. I get orders through commission merchants for other cities.

(The machine above referred to in the answer of the witness is here offered in evidence and marked "Defendants' Exhibit Seibel Pitching Machine.")

Cross-examination waived by Ephraim Banning, Esq.

CONRAD SEIBEL.

LOUIS SCHLOSSTEIN, of lawful age being produced, cautioned, sworn, and examined on the part of the defendants, deposes and says:

Question 1. State your name, age, residence, and occupation.

Answer. My name is Louis Schlosstein; age, 47; I reside at St. Louis; I am a brewer.

175 Q. 2. Please state when and where, if at all, you first used or saw used a machine for heating beer casks for pitching, and describe such machine.

A. I saw the first machine working in January, 1859, at Winklemeyer's brewery, in St. Louis. This was at Julius Winklemeyer's. I worked there at that time. It was the same as the machine which

I see here (indicating Defendants' Exhibit Seibel Pitching Machine). I have heard Mr. Seibel's description of the use of the machine as it appears in the foregoing deposition. It is substantially correct, except that we often put in the new pitch before heating the cask and instead of after, as Mr. Seibel said, and heated the pitch afterwards with the cask. We used it at Winkelmeyer's brewery in 1859—that is, January, 1859. We pitched between four and five hundred casks with the machine that season. I was foreman in Urig's brewery from 1861 to 1865, and I there always used this machine, and since 1865 in Green Tree Brewery, where I am partner. We have always used this machine for fifteen years now. I know that it was used in Winklemeyer's in 1859, for that was the only year that I was working there. I was maltster there at that time, and the maltsters had the pitching business in their hands.

Cross-examination by Mr. BANNING:

X Q. 1. State what other kind of pitching machines have been used by your firm and other brewers in St. Louis.

A. We used Anheuser's pitching machine for small kegs and half-barrels—for these only. We are using it now. Some brewers use Anheuser's for large casks. I don't know of any other being used in St. Louis. The Anheuser machine has a furnace with a coil of pipe about two and one-half inches in diameter, there being four tiers of pipe, each tier having six pipes curling back and forth. A fire is built in the furnace to heat these pipes, and steam passing through the pipes from the boiler becomes dry and superheated, after which it passes through small pipes into the keg to be heated, the same pipe being inserted into the bung-hole of the keg. The pipe is so hot that it will burn a paper on the outside. This is the way we use it. We only use it for small kegs, but use the other machine for the casks.

Redirect examination by Mr. PARKINSON:

R. D. Q. 1. With your Anheuser machine how many kegs can you pitch an hour?

A. One hundred and fifty kegs an hour. This is ordinary work, or about one hundred half-barrels.

R. D. Q. 2. In using that Anheuser machine do you have any trouble about the burning of the kegs?

A. None. It is the best machine I ever saw.

LOUIS SCHLOSSTEIN.

WILLIAM J. LEMP, of lawful age, being duly produced, cautioned, sworn, and examined on the part of the defendants, deposes and says:

Q. 1. State your name, age, residence, and occupation.

A. William J. Lemp; age, 45; St. Louis is my residence; I am a brewer.

Q. 2. Please state whether or not you have used any pitching machines for pitching beer casks; and, if so, when and in what city

you first used or saw used such a machine, and please also describe the machine.

A. I have used a pitching machine. The first one I used was when I was in the employ of my father, Adam Lemp, as fore-
176 man, in the years from 1857 to 1861, at the city of St. Louis, Mo. It was used in the winter season, when we took out the casks, the stowing casks for the cellar, and we pitched them. Each year we pitched a hundred or two or more; I can't say exactly—that is, we pitched several hundred each year; I can't state it exactly. It worked to our full satisfaction. We had no trouble about the burning of the casks. The pitching machine which we used was the same as the pitching machine here (indicating the "Defendants' Exhibit Siebel Pitching Machine").

By consent of counsel the deposition of Conrad Siebel is here read to the witness, whereupon he says further: The machine was used by me as described by Mr. Siebel. It was generally in use at that time, those years, in the breweries in St. Louis; pretty nearly all of them had and used it.

Cross-examination by Mr. BANNING:

X Q. 1. How many other pitching machines have you since used, how did they operate, and from whom did you get them?

A. I have used only one, the Anheuser patent. It heats the cask by superheated steam. I got it from William Anheuser, the patentee.

X Q. 2. Do you know of any brewers here who have used pitching machines in which a current or blast of air was forced directly through fire in a furnace and thence out into a cask or keg to be heated? If so, please state their names and from whom they procured such machines, if you know.

Question objected to by defendant's counsel as irrelevant.

A. I don't know of any such machines used here, except the Seibel.

X Q. 3. Do you know of the use by brewers here of any other kind of pitching machine than the Anheuser and the Seibel fire-pan now before you?

(Same objection.)

A. No, sir.

X Q. 4. What is your firm name and how large a business are you doing as a brewer?

(Same objection.)

A. The firm name is W. J. Lemp. I am selling now from one hundred to one hundred and fifty thousand barrels per year. I first reached a hundred thousand barrels a year or two ago; I think two years ago.

X Q. 5. Did you once make an affidavit or statement in reference to the importance or value of the Anheuser pitching machine?

(Same objection.)

A. No, sir; not in court. I may have given him, the patentee, a few lines saying that the machine worked satisfactorily. I am not certain of this.

X Q. 6. State what you consider to be the yearly value of the pitching machine you are using in a brewery as large as yours or in one making half as much beer.

Objected to for the same reason as before and as not in response to the direct examination, and the witness is instructed by counsel for defendants that he may refuse to make the estimate called for if he chooses so to do of his option.

A. I am not prepared to answer that question, and therefore I decline to do so.

X Q. 7. That is, you do not desire to answer it since the counsel's objections and suggestions?

A. I am not prepared to answer the question now.

WM. J. LEMP.

177 HENRY KUNZ, being duly produced, cautioned, and sworn and examined on the part of the defendants, deposes and says:

Q. 1. State your name, age, residence, and occupation.

A. Henry Kunz; age, 51; I reside at St. Louis; maltster.

Q. 2. Please state when and where you first used or saw used a machine for heating beer casks for pitching and describe such machine.

A. I think I used the pitching machine in 1857—perhaps in 1856. I was foreman in Urig's brewery from 1855 to 1858, and I used it there; I am sure I used it in 1857; it was exactly the same machine as this one (pointing to the Defendant's Exhibit "Siebel Pitching Machine"). We used it every fall; took the casks out, pitched them with this machine, and put them back. I think we pitched about two hundred casks at Urig's brewery in those years—that is, two hundred each year. It worked satisfactorily to us.

By consent of counsel the deposition of Conrad Seibel is here read to the witness, whereupon he says further:

The machine was used by me as described by Mr. Seibel. I think I saw the same machine in Winklemeyer's at the same time—that is, Julius Winklemeyer's. I commenced to run my brewery in 1858, when I left there. I used it in my brewery until the new one appeared—I mean the Anheuser—appeared some years ago; perhaps ten or twelve years ago. I have used the Anheuser for small kegs and a machine which I made myself for large casks. This latter machine was constructed as follows: It was constructed of masonry, about two feet and a half wide and four feet long and four feet high; it had a fireplace inside, with a grate bar and ash pit under the grate bar. A pipe for the introduction of cold air was inserted under the grate bar and connected at the other end with a wind fan. Another pipe extended from the other end to the cask, being connected with the furnace about a foot and one-half above the grate

bar. This pipe was about four or five inches in diameter, two feet long, and was made solid to the furnace. We filled the fireplace with coke, lighted the fire, covered the top of the oven with a tile or fire-brick, and then operated the fan. This made a blast, which passed up through the fire and out into the cask. I think it was in 1868 that I got up this machine; it was my own idea; I had it built myself; I never saw or heard of such a machine before I made my own. I have used this machine up to 1872. I pitched about a hundred a year with this machine. I think it takes about ten minutes to heat a cask of twenty-five to thirty barrels; might say from five to ten minutes. This machine supplies a current of hot air and hot superheated steam.

Cross-examination by Mr. BANNING:

X Q. 1. If you know of any other brewers who have used pitching machines producing a blast of hot air substantially like the machine last described please give their names and state when and how long they have used such machines.

Objected to as irrelevant and as not responsive to the direct examination.

A. They use the machine, but with an alteration; some use the fan and some produce the draft or blast by a jet of steam, producing a vacuum. I have seen that machine in Anton Greisdeck's brewery; Urig has got it; the Excelsior Brewery (Kaellin & Co.) used it; they have been using it a number of years up to the present time.

178 X Q. 2. Do you not consider that brick machine which you have been using for large casks as a great deal better and more satisfactory in every way than the Seibel machine?

Objected to because the witness is not offered as an expert, &c.

A. Yes; there is nothing to put into the cask but hot air; we don't need the pan; don't need the charcoal; it is no trouble at all to heat up the casks in a short time.

X Q. 3. How long were you in the brewing business?

A. In this country I was in the brewing business since 1854 till 1874; since then have been in the malt business.

X Q. 4. Are you very familiar with the work of pitching casks?

A. Yes.

HENRY KUNZ.

FREDERICK BECKER, being produced, cautioned, sworn, and examined on the part of the defendants, deposes and says:

Q. 1. State your name, age, residence, and occupation.

A. Frederick Becker; age, 47; I reside in St. Louis, Missouri; I am a maltster.

Q. 2. Please state when and where, if at all, you first used or saw used a machine for pitching beer casks, describing the machine.

A. The first machine I saw was at Winklemeyer's brewery, in the fall of 1859; it was the Siebel pan. They put in some charcoal and coke and heated it to a blaze by a fan worked by hand—I mean

blacksmith's bellows; when we blew in the flame raised up above the pan, a kind of blue flame; we usually put the pitch in the cask before we put the Seibel pan in it. It was the same—that is, the Seibel pan we used then was the same—as this (pointing to defendants' Seibel pitching machine). I handled it myself for Julius Winklemeyer at that time. The hose from the bellows was connected to the pipe at the bottom of this pan, and the charcoal was in the bottom of the pan and the coke above the charcoal. I know it was in 1859 that I used it, because I came to St. Louis at that time; I commenced to work at Winklemeyer's in August, 1859, and we pitched casks that fall with this machine. They had the machine when I came there; they told me they used it before that. I saw the same machine in 1860 in Koch's brewery, in this city.

Cross-examination waived.

F. BECKER.

Not being able to complete the taking of the evidence, I hereby, with the consent of parties, adjourn the further taking of the same until to-morrow, then to be continued at the same place.

Met pursuant to adjournment, as above stated, on the 21st day of April, A. D. 1881, and continued the taking of evidence as follows:

CHARLES G. STIFEL, being duly produced, sworn, and examined on the part of the defendants, deposes and says:

Q. 1. State your name, age, residence, and occupation.

A. Charles G. Stifel; age, 62; residence, St. Louis; occupation, a brewer.

Q. 2. Please state whether or not you have used any pitching machines for pitching beer casks; and, if so, when and in what city you first used or saw used such a machine. Please also describe the machine.

179 A. I have seen a pitching machine and used it—that is, such a one as this (indicating the Defendants' Exhibit Seibel Pitching Machine); it was in 1858 and 1859, I think; I bought it of Conrad Seibel; I used it at St. Louis, at my brewery; Mr. Seibel asked me what I thought of it, and I told him I would try it.

By consent of counsel the deposition of Conrad Seibel is here read to the witness; whereupon he says further:

The machine was used by me as described by Conrad Siebel, but often the pitching machine is taken out and the new pitch is put in and set on fire with a red rot iron and let it burn from three to ten minutes, and then close the man-hole. The object of closing the man-hole is to extinguish the flame, and the barrel is rolled to make the pitch spread around evenly, and thus the pitch cools inside. There was no concealment of the use of the Siebel machine; I used and recommended it to other brewers; I had no trouble with the ashes blowing out into the cask; I use the same machine to-day and have always used it from the first till now; it produces a moderate fire with very little flame, such as charcoal will produce under the circumstances; charcoal does not produce much of a blaze. I have

got a fan now, instead of a bellows, and I can pitch about forty casks a day easy—thirty or thirty-five barrel casks; the day consists of nine or ten hours; I keep the machine in use all of the time; I take the machine from one cask and put — into another.

I have been engaged in the brewing business since 1849, and am a practical brewer; I am the principal owner of the Stifel Brewery Company; it has been so called for two years; I still own nine-tenths of the stock of the company; it was formerly known as the City Brewery, and it was in the City Brewery that I first used this machine. Our brewery is making from thirty to forty thousand barrels a year.

Cross-examination by Mr. BANNING:

X Q. 1. How many kinds of pitching machines have you used?

A. I think that is the only one that I ever used; I know I never used any other but this for casks or kegs; I have been taking the heads out for several years, after I adopted that machine for pitching; I am now pitching the kegs with superheated steam, and have been doing so for about twelve years or more.

X Q. 2. Have you ever used any machine which produces the blast by forcing air through a fire in a furnace and thence out through pipes into the keg or cask?

A. No, sir; only in the way stated above.

X Q. 3. Have you ever used any machine of any kind for heating the inside of casks or kegs except the Seibel and Anheuser?

A. No; none.

X Q. 4. Do you know of the use by other brewers here of pitching machines in which the blast is produced by forcing air directly through fire in a furnace or receptacle outside of the cask?

(Objected to as irrelevant.)

A. No, sir.

X Q. 5. Then you do not know what inventions others are using, do you?

(Same objection.)

A. No, sir; at least I have not seen them; I don't think I have seen any of them a pitching.

X Q. 6. Have you seen any other pitching machine standing idle or heard of their use at other breweries here than the Seibel pan and the Anheuser machine?

180 A. Not to my knowledwe. I might have seen them around there without paying any attention to them. I have only heard of one, and that was to-day at the bank. Heidderauder told me that he had bought one of Gottfried's machines.

CHAS. G. STIFEL.

Not being able to complete the taking of the evidence in the said cause, I, with the consent of the parties, do hereby adjourn the further taking of the same until to-morrow, then to be continued at the same place.

Met pursuant to adjournment, as above stated, on the 22nd day of April, A. D. 1881, and not being able to proceed with the examination on account of the absence of the witnesses, I, by and with the consent of the parties, adjourn the further taking of the same until the 26th day of April, A. D. 1881, then to be continued at the same place.

Met pursuant to the adjournment, as above stated, on the 26th day of April, A. D. 1881, and continued the taking of evidence as follows:

LAWRENCE LAMPEL, of lawful age, being produced, cautioned, and sworn on the part of the defendants, deposes and says:

Q. 1. State your name, age, residence, and occupation.

A. My name is Lawrence Lampel; age, 49. I reside at St. Louis, Missouri. I am a member of the firm of S. Wainwright & Co.

Q. 2. Please state whether or not you have used any pitching machines for pitching beer casks; and, if so, when and in what city you first used or saw used such a machine; and please also describe the machine.

A. I saw the first pitching machine here in St. Louis, Missouri, in 1857 or 1858. It was the Seibel machine. I saw it in Lemp's brewery. I was at that time employed in that brewery. On the 14th of November, 1861, I purchased one of the same machines from Conrad Seibel, I being then foreman of the brewery of Fritz & Wainwright. I used it that year, and we have used it nearly all the time since for the last twenty years. We have one in use now. The pitching machine which we used is the same as this (pointing to the Defendants' Exhibit "Seibel Pitching Machine").

By consent of counsel, the deposition of Conrad Siebel is read to the witness; whereupon he says:

The machine was used by us as described by Mr. Seibel, except as to length of time occupied in pitching the cask; it generally takes about fifteen minutes to melt the pitch in a cask. It did good work. It was in these years—that is, from 1857—in general use in the city of St. Louis.

Cross-examination:

X Q. 1. How many other pitching machines have you since used, how did they operate, and from whom did you get them?

(Objected to as irrelevant.)

A. Never have used any other machine except the Anheuser for small kegs. The only machines that we have used are the Seibel for casks and the Anheuser for kegs. I got the Anheuser machine from Mr. Anheuser; bought the right to use it from him.

X Q. 2. Do you know of any breweries here where there have been used pitching machines in which a current or blast of air was forced directly through fire in a furnace and thence out into the cask or keg to be heated? If so, please state their names — from whom they purchased such machines, if you know.

181 (Question objected to by defendants as irrelevant.)

A. I have seen the drawings of such machines, but never have seen them in use; never have seen any other except the Anheuser and Seibel's.

X Q. 3. How large a business are you doing in your brewery?

A. We made about sixty thousand barrels last year.

LAWRENCE LAMPEL.

HENRY ANTHONY, of lawful age, being produced, cautioned, sworn, and examined on the part of the defendants, deposes and says:

Q. 1. State your name, age, residence, and occupation.

A. My name is Henry Anthony; age, 48; I reside in St. Louis, Mo.; brewer is my occupation.

Q. 2. Please state whether or not you have used any pitching machine for pitching beer casks; and, if so, when and in what city you first used or saw used such a machine; and please also describe the machine.

A. I have used the Seibel pitching machine; I first used it at St. Louis, Missouri, in 1859, at Charles Stifel's brewery; I was working there at that time as first cellar-man, in the cellar; I only worked there about eight months—one season; in 1862 I worked at the Lafayette Brewery, and we used it there; in 1863 I went into business for myself, and used it up to 1872 or 1873, at which time we commenced to use the Anheuser patent; it was just the same as this (indicating the Defendants' Exhibit Seibel Pitching Machine), blowing air through the fire and so heating up the cask.

By consent of counsel the evidence of Conrad Seibel is read to the witness, and he then says:

The manner of the using of said machine as described by Mr. Seibel is the same as that used by us at the different places referred to; at the same dates almost all the large breweries in this city used the same machine.

Cross-examination:

X Q. 1. How many other pitching machines have you since used, how did they operate, and from whom did you get them?

A. I have used no other one except Anheuser's.

X Q. 2. Do you know of any breweries here where there have been used pitching machines in which a current or blast of air was forced directly through fire in a furnace and thence out into the cask or keg to be heated? If so, please state their names and from whom they procured such machines, if you know.

(Question objected to as irrelevant.)

A. I have never read or heard of any such machines; the only machines I know of are the Siebel and the Anhueser.

X Q. 3. What is your firm name, and how large a business does your brewery do?

A. Anthony & Kuhn; we sell about thirty-two to thirty-five thousand barrels.

HENRY ANTHONY.

I, W. B. Homer, notary public, whose term of office expires May 3d, 1881, within and for the city of St. Louis and State of Missouri, do certify that in pursuance of the annexed notice came before me at my office, No. 314 Olive street, in the city of St. Louis and
182 State of Missouri, Conrad Seibel, Louis Schlosstein, William J. Lemp, Henry Kunz, Frederick Becker, Charles J. Stifel, Lawrence Lampel, and Henry Anthony, who were by me severally sworn to testify the truth, the whole truth, and nothing but the truth of their knowledge of the matter in controversy aforesaid; that they were examined and their examinations reduced to writing and subscribed by them respectively in my presence on the days and at the place in that behalf aforesaid, and their said depositions are herewith returned.

Given at the city of St. Louis and State of Illinois this 26th day of April, A. D. 1881.

W. B. HOMER,
Notary Public and Acting Special Examiner.

Depositions taken on behalf of defendants, before John E. Burke, a notary public, at the office of Adam E. Schatz, No. 908 Third avenue, New York city.

Present: Hubert A. Banning, in behalf of complainants; Robert H. Parkinson, in behalf of defendants.

JOHN C. G. HUPFEL, being duly sworn, testifies as follows:

Q. What is your name, age, residence, and occupation?

A. My name is John C. G. Hupfel; 38 years of age; reside — 140 E. 37th street, New York city, and my occupation is a brewer; have been such for twenty-two years.

Q. Please examine the volume now before you and state to whom it belongs.

A. It belongs to me.

Q. How long have you owned it, where did you obtain it, and what was your reason for obtaining it?

A. I bought it in 1876 or 1877, I can't state which. I obtained it from L. W. Schmidt, a German book-seller, in New York. I was a subscriber for the work at the time and did not have back numbers and I obtained it bound to fill up my set.

Q. State whether or not you were receiving the current volumes of this work as a regular serial publication at the time you purchased it.

A. Yes.

Q. Did you or did you not purchase this in the ordinary course of trade of a book dealer as the volumes of the work under this title for the years in which this purports to have been published?

A. Yes, sir; I purchesed them in that way. They were back numbers and I did not have them and I wanted to get them. There was no use in having half a volume.

The volume above referred to, being a bound volume containing or purporting to contain several serial numbers of Der Bier-Brauer of 1859, 1860 and 1861, bearing upon the several title papes above the respective dates the words "Leipzig, verlag von Otto Spamer, 1861," is here produced and offered for inspection of the respective counsel, and by consent of counsel the unbound number admitted by counsel to be a duplicate of the number bearing date 1861, found in said bound volume, is substituted therefor, to have same effect as if said bound volume was offered in evidence and produced; which said unbound number is here offered in evidence and marked Defendant's Exhibit "Der Bier-Brauer, 1861." It is understood, however, that the consent to the substitution of the unbound number is not to be taken as a waiver of any of the objections that may be made at the end of this deposition to the relevancy or competency of the bound volume above named.

183 Counsel for complainants objects to the introduction in evidence of the bound volume of the Bier-Brauer above offered in evidence, first, because it is not shown that it was published at the date appearing upon it; and, second, because it does not appear that the same is a public work or was circulated as such, so as to make it proper evidence under the statute relating to publications, prior to the date of the patent.

JOHN C. G. HUPFEL.

JOHN H. TIMMERMAN, a witness produced by the defendants, being first duly sworn, testified as follows:

Q. 1. Please state your name, age, residence, and occupation, and what acquaintance, if any, you have with the German language.

A. My — is John H. Timmerman; age, 35 years; residence, 305 E. 53rd street, New York city; occupation, bank secretary; I went to school in New York city, in which the German language was taught, from my fourteenth year; I read and write and talk the German language.

Q. 2. Please examine Defendant's "Exhibit Extract from Der Bier-Brauer, 1861," marked under the hand and seal of Daniel Kelly, notary public, and state, if you recognize it, what it is.

A. I recognize it as my handwriting and a copy of a certain article entitled "Ueber das Austrockmen und Verdichten das Fasser," published in "Der Bier-Brauer," on page 138 of the issue of 1861, being Defendant's Exhibit "Der Bier-Brauer, 1861, J. E. B." I copied it myself and compared — with the original, and found it was a correct copy.

JOHN H. TIMMERMAN.

UNITED STATES OF AMERICA,
Southern District of New York, } ss:

I, John E. Burke, a notary public, residing in the city of New York, in the State of New York, do hereby certify that the reason for taking the foregoing depositions is that the testimony of said witnesses is material and necessary for the defendants in the cause in the caption of the said depositions named, and that the said witnesses live and did live at the time of taking said depositions in the city, county, and State of New York, the same being at a greater distance than one hundred miles from the city of Indianapolis, where the court at which it is expected the said causes will be tried was appointed by law to be held, to wit, more than five hundred miles.

I further certify that on the 20th day of May, A. D. 1881, I was attended at No. 908 Third avenue, New York city, the office of Adam E. Schatz, the place of taking such depositions aforesaid, by Hubert A. Banning, Esq., on behalf of complainants, and by Robert H. Parkinson, Esq., on behalf of defendants, and the witnesses, John C. G. Hupfel and John H. Timmerman, who were of sound mind and lawful age, and the witnesses were by me carefully examined and cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, and the depositions were by me reduced to writing in the presence of the witnesses and from their statements, and after carefully reading over to the witnesses they subscribed the same in my presence. I have retained the said depositions in my possession for the purpose of sealing up and directing the same, with this certificate of the reasons aforesaid for taking said depositions, with my own hand to the court for which the same were taken.

184 And I further certify that I am not of counsel nor attorney for either of the parties in said depositions and caption named, or in any way interested in the event of the said causes named in said caption.

I do further certify that the depositions were taken before me by consent of the respective counsel.

In testimony whereof I have hereunto set my hand and seal this 20th day of May, in the year of our Lord one thousand eight hundred and eighty-one.

JOHN E. BURKE,
Notary Public, New York County.

Examination of witnesses on behalf of the defendants, under the 67th rule in equity, as amended, at the office of Parkinson & Parkinson, No. 75 West Fourth street, Cincinnati, Ohio, the parties appearing and agreeing that Daniel Kelly may act as special examiner herein.

Present: Thomas A. Banning, Esq., for the complainant, and R. H. Parkinson, Esq., for the defendants.

By request of parties it is ordered that these depositions be taken by question and answer.

JOSEPH B. BLETTNER, a witness produced on behalf of the defendants, being first duly sworn, deposeth and saith, in answer to interrogatories propounded to him by R. H. PARKINSON, Esq., of counsel for defendants, as follows:

Question 1. State your name, age, residence, and occupation.

Answer. Joseph B. Blettner; age, 48 years; residence, Cincinnati; and occupation, machinist.

Q. 2. Please state what experience, if any, you have had in the manufacture of furnaces for various purposes, and especially those used for the purpose of pitching beer casks, and about how long you have been familiar with the manufacture, sale, and use of pitching machines in which a blast of air is driven through the furnace and thence through pipes to the keg or cask to be pitched.

A. More or less of our work is brewery work. I have done repairings in breweries and new work for the last twenty years. It has been fully ten years since we have been doing repairs to pitching machines, and been up to nine years since we have been building them; I think it was between sixty-five and sixty-six that I saw the first pitching machine. I have known blast furnaces and furnaces for heating and for melting since 1849; this was at Lawrenceburg, Indiana; I have also known them at Cincinnati, Newport, Ky., Portsmouth, Ohio, and Wheeling, West Virginia; we have used these for the last twenty years to melt iron here in Cincinnati.

Q. 3. How long and how extensively have you known of the use and sale here in Cincinnati of pitching machines for pitching beer kegs and casks, which machines were so constructed as to drive a blast of air, propelled by a blower, through the furnace and thence through a connecting pipe into the keg or cask to be pitched?

A. For pitching kegs it has been since sixty-five or sixty-six, for pitching casks it has been about sixty-nine or seventy, when I saw the first cask pitched by machine; this was a different construction of machine; it was done by superheated steam; it wouldn't fill the bill; it was used at Windisch, Mulhauser & Brother's. From the time the first machine I knew was gotten up it was about two years before any was sold, and after that they have been getting them up as fast as they could get them in amongst all the
185 brewers.

Q. 4. How long and extensively have you been engaged in the manufacture of these machines and to what parts of the country have you sent them during that time?

A. For eleven years, and have sent them to Ohio, Indiana, Kentucky, and West Virginia. I don't think we ever made more than seven or eight during this time; these were new machines. Besides this we repaired a great many, but we were not especially engaged in this business.

Q. 5. Do you know whether others were made by other establishments here in Cincinnati during this time; and, if so, how extensively?

A. I know of one establishment which made about the same number as we, and one other establishment I know of as making one.

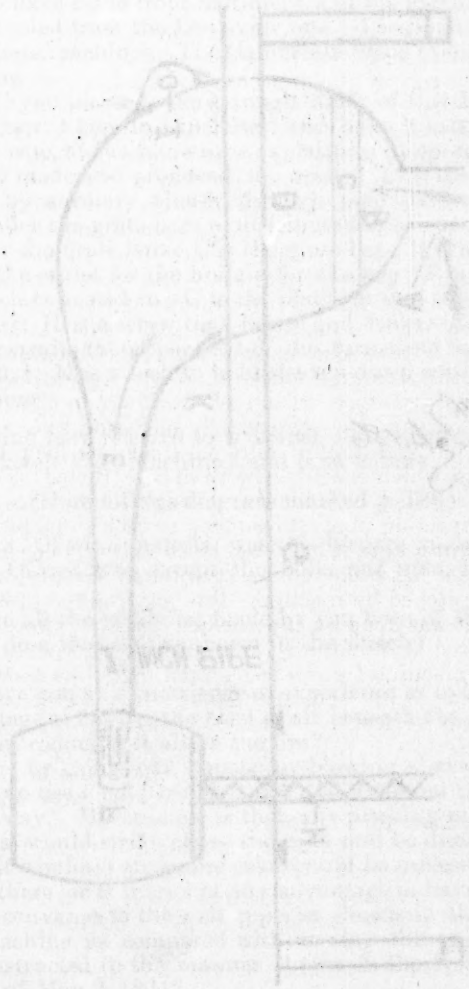
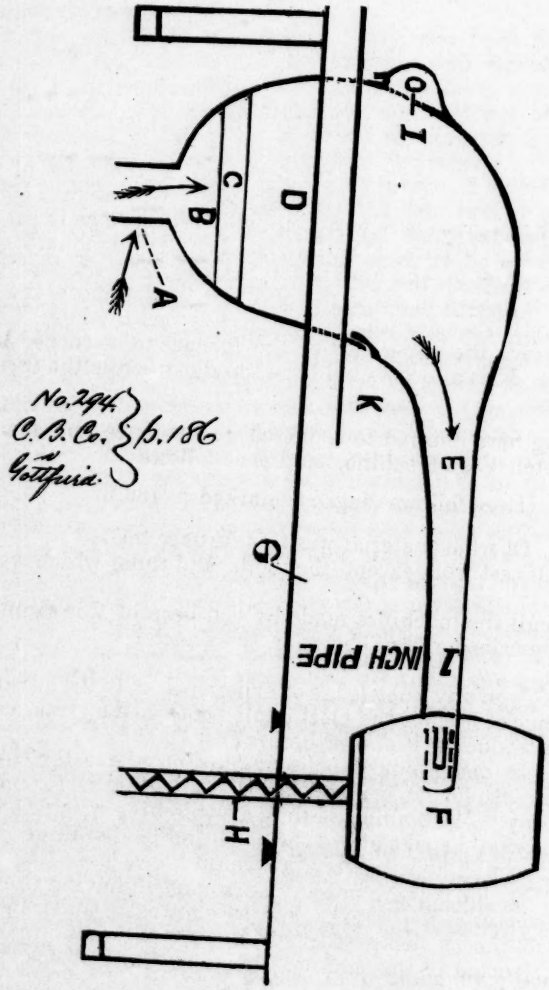


Exhibit "Blettner Sketch Vogt Machine."



Q. 6. By whom were the first machines of this character, of which you knew, manufactured and introduced?

A. The first pitching machine which I saw in use in this city was the Vogt machine, from Louisville. This is the kind of a machine we afterwards repaired and built. About two years after this machine was introduced here there was a pitching machine introduced here said to have come from Baltimore, and the machine was differently constructed from the Louisville one. I couldn't tell who manufactured these machines. The Gambrinus Stock Company had this first machine.

Q. 7. Will you please make a rough draft of this Vogt machine as you first saw it here in Cincinnati and have it marked as an exhibit in the case, at the same time explaining its operation?

A. I have made and produced the draft. A is the inlet of the air driven by a rotary blower through pipe connections; B is a chamber under the grate bars to distribute the blast so as to get the heat all over the grate bars; C is the grate bar; D is a chamber for coke; E is the outlet for the hot air for the keg; F is the keg itself that the pitch is heated in; G is the platform that supports the furnace and keg; H is a screw that raises and lowers the keg; I is a hinge that permits the upper part of the furnace to be turned back to feed the fire; K is a lock to hold the top down while the furnace is in operation.

The drawing here referred to is offered in evidence and marked "Blettner Sketch Vogt Machine," and is as follows:

(Here follows diagram marked p. 186.)

186 Q. 8. Of what material was this furnace made?

A. Of cast iron, except the bolts and nuts, which were of wrought iron.

Q. 9. Have all the machines made by you been of this same construction as described and as shown in the sketch?

A. Yes, sir.

Q. 10. Have you any knowledge or experience as to the advantage or disadvantage of forcing the blast of air beneath the grate, as compared with introducing it above the fire?

A. I have; by using our cupola by blowing above the coke we would have no use for it; couldn't use it at all—that is, for melting iron in this way. My opinion is that any pitching machine where the cold blast would strike above the coke and be discharged above the coke so it wouldn't strike the coke would be useless.

Q. 11. Is there or is there not any advantage in having the top of the furnace converge to the exit pipe, as shown in the drawing of the Vogt machine, as compared with having the exit pipe at the side and constructed in the manner shown in the Holbeck & Gottfried patent of May 3, 1864?

A. The only advantage there is, I think, that a furnace lined with fire brick can be kept in repair cheaper than the iron one; at the same time the Vogt machine has a keener discharge. This is the advantage it would have in being discharged.

Q. 12. When did you first learn that it was claimed that the Gottfried & Holbeck patent, here in suit, covered the Vogt or other machines made and used here?

A. In 1878; this was the first I ever heard of the Gottfried patent.

187 Q. 13. Did you ever see or know of any pitching machines having the blast from the blower introduced above the fuel, as shown in the drawing of the Holbeck & Gottfried patent of May 3, 1864?

A. No, sir; I never saw one; I haven't seen one yet up to this day with the blast above the fuel.

Q. 14. When did you first know of any pitching machines purporting to be made by Gottfried & Holbeck or under their patent, or any machines marked under their patent?

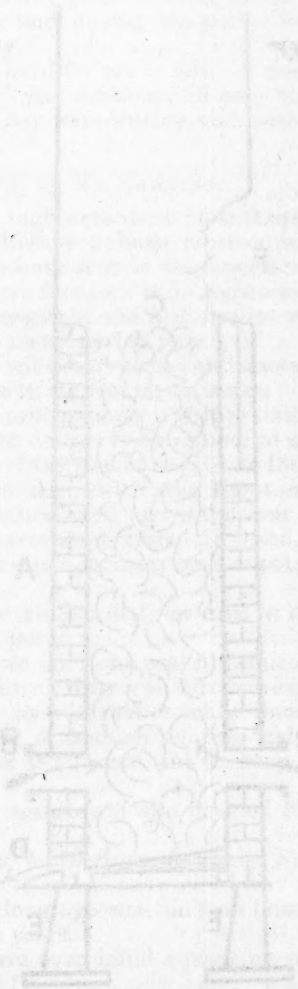
A. The first machine I ever saw with their brand on was about one year ago, in the spring of 1880. I had no idea that Gottfried & Holbeck had a patent on a pitching machine before 1878; this was the first I ever heard of them; the first machines that I ever knew that purported to have been made by them or under their patent was in the spring of 1880.

Q. 15. You have referred to blast furnaces with which you have been familiar since 1849, as used for other purposes than that of pitching casks; please state how these furnaces were constructed, how the blast was applied to them, and how, if at all, they differed in construction and mode of operation from the pitching machines which you have described as the Vogt machines.

A. The furnace that I have been speaking about I have been acquainted with since 1848; has the blast the same, and we used a fan blower, also a rotary blower; they connected above the bottom; we used a tight bottom in place of grate bars; the reason of the tight bottom is to hold the melted iron; the construction of the furnaces is about the same, only in the place where we catch the blast in pitching we allow it to exhaust; the top is not covered; the reason we don't receive the blast close to the bottom is because we have to have an iron chamber there to hold the melted iron, and it wouldn't do to blow into the melted iron, and the distance from the bottom is according to whether the work to be done is heavy or light, the lighter work being closer to the bottom; we want the blast connected as near the bottom of the fuel as possible, and it is always below the surface of the fuel.

Q. 16. Will you make a sketch showing these blast furnaces as you saw them used from 1849 on, and make it an exhibit in this case?

A. I have, and now produce such a sketch A represents the furnace; B B, the inlets for the air from the blowers; C, the top of the fuel when placed in the furnace; D, the outlet through which the melted iron is thrown, and E E, the columns on which the furnace rests; this furnace is lined with fire brick and its bottom packed with clay; the top is left open; F is the opening for putting in fuel.


A
B
B
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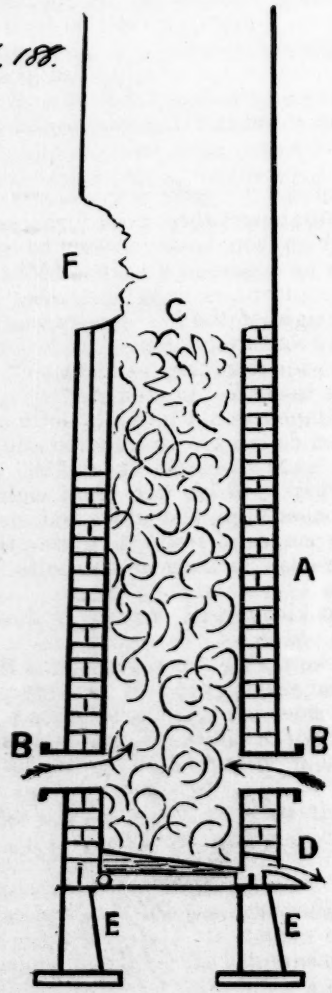
Defendant's Exhibit "Blettner Sketch Blast Furnace No. 1."

No. 294.
C. B. Co.
v.
Gottfried.
p. 188.



The sketch here referred to is offered in evidence and marked Defendant's Exhibit "Blettner's Sketch Blast Furnace No. 1," and is as follows:

(Here follows diagram marked p. 188.)

188 Q. 17. Please state about how extensively you saw blast furnaces in this country constructed and operated as described in your last answer prior to 1860, and whether or not they were, prior to that time and during the period from 1848 on, used with ordinary publicity.

A. Well, it is pretty hard for me to tell. I suppose that ten millions of dollars wouldn't pay for them. I have seen forty or fifty of them prior to 1860. They were during said period used with ordinary publicity.

Cross-examination by Mr. BANNING:

X Q. 18. About how high were these blast furnaces that you have been describing and which you have represented in this drawing and which you say you have seen in use since 1848?

A. The height of these furnaces is in some cases thirty feet and up to fifty feet. The height of the fuel service was in some cases eight feet and on up to about twelve feet.

X Q. 19. About how wide were they in diameter?

A. It varies from two to six feet in diameter.

X Q. 20. About how much would it cost to build one of them?

A. From two hundred dollars to two hundred and fifty thousand dollars. I saw one of these machines about 1860, just before the war, at Frankfort, Kentucky, which was about eighteen inches in diameter and thirty inches high, and which was used for melting from ten to twenty-five pounds of iron. In giving the prices above I had reference to the blast furnaces and cupolas for melting ore and iron.

189 X Q. 21. What kind of fuel was used in these furnaces, and how was the ore put in?

A. In blast furnaces we use stone coal in some of them; in others, charcoal. In cupolas for melting iron for foundry purposes we use coke. First is put in a layer of coal or coke; then a layer of ore or iron, then a layer of coke or coal, alternating fuel and iron, till the furnace is charged; and as it burns out we keep feeding in in the same way at the top.

X Q. 22. Are you a member of the firm of Fritsch, Burkhardt & Co.?

A. It is now Fritsch & Blettner, formerly Fritsch, Burkhardt & Co.

X Q. 23. About how long ago was the firm first established?

A. About twenty-one years.

X Q. 24. Did your firm ever build a pitching machine for John Kauffmann, of this city?

A. A portion of one.

X Q. 24½. When was that?

A. It must have been somewhere near 1868 or 1869.

X Q. 25. Was that the first one your firm built or partially built for him?

A. Yes, sir.

X Q. 26. Has your firm, or any member of it, guaranteed or in any way agreed to protect any brewer or brewing company from damages under this Gottfried & Holbeck patent?

A. The way the question is asked I would have to say no, but they asked us if we would assist them in case of any trouble, and we said we would.

X Q. 27. Who asked you?

A. The Crescent Brewing Company, of Aurora, Indiana, and Hack & Simon, of Vincennes, Indiana.

X Q. 28. Why do you think or why have you given it as your opinion that a pitching machine in which the air was introduced, as represented in figure 1 of the drawings of the Gottfried & Holbeck patent, would not prove operative or useful?

A. The reason is the blast is drawn above the coke.

X Q. 29. If the specification of the patent says that the opening for the introduction of air may be "either below the grate or above this grate," would you understand that the patentees had given you any choice as to the location of this opening?

A. If it reads that way I would; I would understand that they left it to my judgment.

Defendant objects to the last foregoing question as irrelevant and incompetent, and especially as the witness has not been offered, qualified, or examined in direct examination as an expert on the construction of patents, specifications, or other instruments.

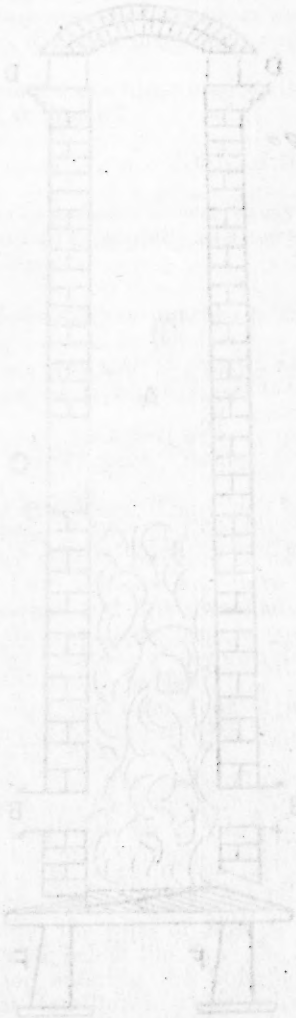
This objection is here noted by consent, to have effect as if entered before the answer.

Redirect examination by Mr. PARKINSON:

R. D. Q. 30. You have referred in your cross examination to cupola furnaces. How long have you known of the general public use in this country of such furnaces?

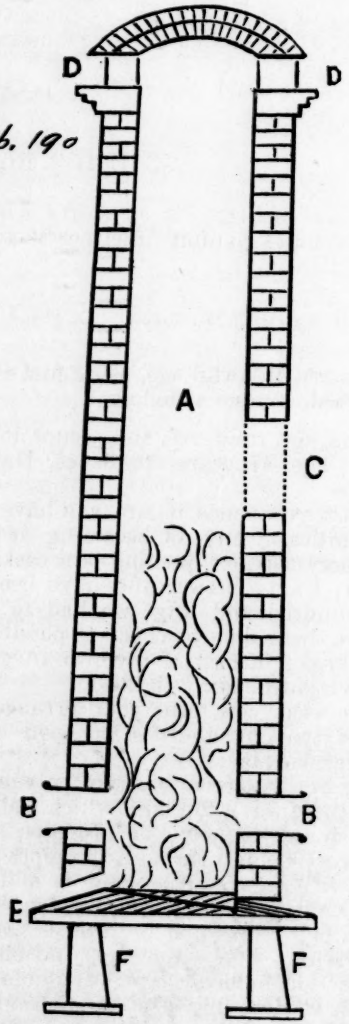
A. To my knowledge, about thirty years. The drawing which I have made shows one form of a cupola furnace, and I will make a sketch of another form, which I have also seen in use in this country during the last thirty years. In this drawing which I
190 now produce, A represents the furnace; B B, the openings for the introduction of air from the blowers; C, the opening through which the fuel and material to be melted are introduced; D D, openings at the top through which the hot air and gases escape; E, the opening from which the melted iron is drawn; and F F, the columns on which the furnace rests. These furnaces were, say, from twenty-five to forty feet in height and from three to six in diameter, and were charged in the same manner as represented in my first sketch, Defendant's Exhibit "Blettner's Sketch, Blast Furnace No. 1."

R. D. Q. 31. What was the reason that you agreed to assist in the defence of the suit against Crescent Brewing Company and Hack & Simon, referred to in your cross-examination?



Defendant's Exhibit "Blettner Sketch Blast Furnace No. 2."

No. 294, C.B. Co. " Gottfried } p. 190



A. When these parties ordered these machines they wrote to us they were informed by a Chicago party that they claimed a patent on that machine. We wrote back to them that we built the Louisville machine, and that we didn't know that there was any patent on the Louisville machine, and made several inquiries and efforts to find out if there was one, but were never able to find out about it. They then asked us if they were sued would we assist them, and we replied we would. Hack & Simon made their request in the fall of 1878.

R. D. Q. 32. Who made the machines used by the Crescent Brewing Company and Hack & Simon?

A. Fritsch & Blettner.

JOSEPH B. BLETTNER.

The sketch referred to in redirect answer thirty is offered in evidence and marked Defendant's Exhibit "Blettner Sketch Blast Furnace No. 2," and is as follows:

(Here follows diagram marked p. 190.)

191 HERMANN REUTTI, of lawful age, being first duly sworn, as hereinafter certified, deposes as follows:

Q. 1. State your name, age, residence, and occupation.

A. Hermann Reutti; age, 47 years; residence, Hamilton, Ohio, and occupation, maltster.

Q. 2. Please state what experience, if any, you have had in brewing, and what opportunities, if any, of becoming acquainted with the methods in machinery used for pitching beer casks and kegs.

A. That is my trade; I am a brewer and have been in the business since eighteen hundred and fifty; we had to pitch a great many and tried to have them done as cheap as possible; we used a pan for casks and for kegs a furnace of my own invention; I used my furnace as early as eighteen sixty-eight.

Q. 3. Please describe what you term your furnace and where it was used in eighteen sixty-eight; and if it has been used elsewhere, please state at what place or places.

A. The first furnace we used was made of galvanized iron and lined with fire brick; there was a top on it which could be taken off to feed the fire; the top may have one or two pipes; the first built had but one; we forced the blast through the pipes by means of a bellows; at first we used a blacksmith's bellows and after a rotary blower; we first used rubber hose for carrying air from the bellows to the furnace, then a pipe; the pipe or hose is connected to the bottom of the furnace and below the fire; the blast was driven through the pipe at the top, entering the bung-hole of the keg; it was used in sixty-eight at Hamilton in Peter Schwab & Co.'s brewery, and is still used there, and it was also used by many brewers in Cincinnati as early as sixty-nine and seventy, and have been used here ever since; they are sometimes made of different material, but the principle is the same.

Q. 4. What other make of pitching machines driving the blast of air through the furnace and thence through a pipe into the keg did you know of as being used in or about Cincinnati?

A. The only one I saw was the Vogt machine, and this not till two years after; at that time there was none in practical use here, at St. Louis, or Chicago, or anywhere else—I mean in eighteen hundred and sixty-eight; I know positively none was used at this time in Cincinnati, and was informed none was in use in St. Louis or Chicago also.

Q. 5. State whether the uses of your machines and the Vogt machine to which you have referred were secret or public uses; by public I refer to ordinary publicity as distinguished from concealment.

Objected to as incompetent and immaterial, and for the further reason that the witness can only state facts, and it is for the court to give their legal effect.

A. I don't know anything about the Vogt machine; after using mine for about a year the man that made my iron-work and helped me to get up my machine wanted us to take a patent out on it, which we got in April, seventy; my machine was used openly in the yard, and I invited the Cincinnati brewers up to see it, and they had some made like it.

Q. 6. Did you ever know of any machines made by Gottfried and Holbeck, or either of them, or purporting to be made under their patent, being introduced either in this region or elsewhere?

192 A. Not at that time; when I got my patent out we were informed of the Gottfried & Holbeck patent, which my attorney said did not interfere with mine; I have not to this day seen a machine made by Gottfried & Holbeck or purporting to be made under their patent.

Q. 7. Look at the drawing of the Holbeck & Gottfried patent No. 42580 and state whether or not you have ever seen a pitching machine constructed as shown in that drawing.

A. No, sir.

Q. 8. Have you ever seen one with the blast from the fan brought in above the fuel, as there shown?

A. No, sir.

Q. 9. How would a machine constructed as shown in this drawing compare, in your opinion, in respect to the amount and thoroughness of work which it could do in a given length of time, and in respect to acceptability and salability in the market, with a machine constructed either like yours or the Vogt machine?

A. I honestly believe if the brewers had a machine like that shown in the drawing they would rather pitch in the old way than use such a machine. After an hour the fire would break out on all sides in such a machine. My machine or Vogt's would sell ten to one of the Gottfried & Holbeck. Mine can be easily transported and can be put up anywhere, and can be operated in a half hour and run by any green hand or common laborer. I think the Gottfried & Holbeck machine gets too many licks when it is in use for a

short time. Nobody uses the machine in the form shown in the drawing. A machine like mine could do ten times as much work as one like that shown in the drawing. The Gottfried & Holbeck machine can only pitch hogsheads or casks and cannot be used to pitch kegs.

Q. 10. Is there any advantage or disadvantage in bringing the blast of air above the fuel, as compared with bringing it below the fuel?

A. Of course, the blast brought in below the fuel sets all the fuel on fire and gives so much the more heat, which is what we want. You have never seen a blast furnace or any furnace of that kind where the blast is brought in above the fuel. It is always brought in below.

Q. 11. When did you first hear that it was claimed that your pitching machine or the Vogt pitching machine were infringements of the Gottfried & Holbeck patent?

A. About three years ago, when suit was brought in Indianapolis.

Q. 12. Look at exhibit of "Blettner Sketch Vogt Machine" and state how it compares with what you have referred to as the Vogt machine, assuming the pipe A to be connected with a blower.

A. It is the same as I have seen in use here.

Q. 13. What is your opinion, based on your experience in pitching casks, as to whether it is an advantage or disadvantage to ignite the pitch, and what, so far as you know, is the general understanding among brewers upon this point?

The latter part of the question objected to as calling for mere hearsay.

A. It is always better to set the pitch on fire. It kills all the bad smell, mustiness, and acids and prevents any pitchy taste. This is the general understanding among brewers.

Q. 14. About when did brewers in and about Cincinnati be-
193 gin to ship their beer in larger quantities in kegs and to pitch their kegs frequently?

A. Since about eighteen seventy; before this time there was little beer shipped in kegs—mostly all in half barrels and whole barrels.

Q. 15. How did the quantity of beer made and sold, and especially shipped in this region, after the war of the rebellion compare with that before the war?

A. About ten to one. There was little lager beer made before the war as compared to what is now made. By ten to one I mean with what is now made and sold. Immediately after the war there was double the amount made and sold; at least here in Cincinnati.

Q. 16. Prior to the war was it customary to pitch the kegs as frequently as it has been since they have shipped more in kegs?

A. No; it was more troublesome and expensive to pitch them then.

Q. 17. How often did they have occasion to pitch them, say, about eighteen sixty-one or sixty two, and how often do they have occasion to pitch them now?

A. About sixty-one they generally pitched them every spring; kegs now used about town are pitched about twice a year. Those

which are shipped South are pitched every time they are shipped; the same is true wherever they ship them, but most are shipped South.

Cross-examination by Mr. BANNING:

X Q. 18. Please state whom the patent covering the machine about which you have testified as having been made by you in eighteen hundred and sixty-eight was issued to.

A. To myself and Phillip Winkelhaus; it is dated April 19, 1870, and numbered 102,156; we used it for a considerable time before applying for a patent.

X Q. 19. Do you have any interest in it now?

A. I own half of the patent yet.

X Q. 20. State what machine, in your opinion, is the best ever made for pitching kegs or casks.

A. I can't tell you that; I have been out of the brewing business for six years and expect they have made improvements during that time.

X Q. 21. So far as you are acquainted with pitching machines, which do think is the best?

A. I think those now in use in Cincinnati, with two nozzles, are the best.

X Q. 22. As I understand, you have said that you considered the machines in use in Cincinnati the same as your machine?

A. They are on the same principle.

X Q. 23. Do you not, then, consider your machine the best?

A. I think it is as good as any of them.

X Q. 24. In saying that you did not consider a machine built like the drawing of the Gottfried & Holbeck patent a useful or operative one did you not have in mind a machine built of brick and square in form?

A. Yes, sir; a machine built like the one in the drawing—of brick and square in form—would not last long or answer the purpose.

X Q. 25. As I understand, you expressed this opinion without ever having seen or used a machine constructed under this patent?

194 A. Yes; my opinion is that this machine is only constructed to pitch big casks, but the others are constructed for the purpose of pitching kegs; I never saw or used such a machine as referred to in the question.

X Q. 26. If it is stated in the Gottfried & Holbeck patent that the air from the blower may be introduced into the furnace either below or above the fire grate would you consider that a person in building a machine under that patent was confined to any particular location for introducing the air?

Objected to as incompetent, as involving a question of legal construction, and because the witness has not been offered, qualified, or examined in direct examination as an expert in the construction of patents, specifications, or other instruments.

A. I don't know; I don't know how it is with patents, whether he is strictly bound by what is said there.

X Q. 27. Do you not consider the present way of pitching kegs and casks by use of a machine a very great improvement over the old way of pitching them, where the heads are taken out?

A. I do, sir; it saves them at least twenty-five per cent. on cooperage and labor.

X Q. 28. Did not yourself and co-patentee send out a circular to the brewers a few years ago representing the merits of your invention and offering them licenses under your patent for certain amounts named in the circular letter?

Objected to as incompetent and irrelevant.

A. We did.

X Q. 29. Were the amounts named in that circular, in your opinion, fair and reasonable for a license under your patent?

Objected to as irrelevant and incompetent.

A. I don't know any more what they were, but I think they were fair and reasonable; Mr. Schwab, who had bought out Mr. Winkelhaus' interest, and a lawyer who had some interest in it got up the circular; I took no interest in it, but saw the circulars and agreed to give them half of what they could make out of it.

X Q. 30. Did not the amount named in those circulars range from fifty dollars to five hundred dollars per year for a license, depending on the size of the brewery?

Same objection.

A. I think they did; that was about seven years ago.

X Q. 31. Can and will you furnish one of those circulars to myself or to the notary taking this deposition to be used as an exhibit in the case?

Same objection.

A. I don't know as I can; I have none of them and don't know as I can get one unless Schwab has some yet; I will get and furnish one of them if I can.

HERMANN REUTTI.

JOHN KAUFFMAN, of lawful age, being first duly sworn, as hereinafter certified, deposes as follows:

Q. 1. State your name, age, residence, and occupation, and are you the defendant in the case of Matthew Gottfried *et al.* against John Kauffman?

A. John Kauffman; age, 51; residence, Cincinnati; occupation, brewer, and I am the defendant in said suit.

Q. 2. How long have you been engaged in the business of brewing?

A. Since eighteen hundred and forty-six; part of the time I
195 was foreman, and have been in business for myself since eighteen fifty-six, when the firm was John Kauffman & Co.

Q. 3. What is your opinion, based upon your experience in pitching, as to whether it is an advantage or disadvantage to set the pitch on fire when pitching beer casks or kegs?

A. My opinion is that it is an advantage to set the pitch on fire. We pitched our casks before Gottfried's patent was issued with a pitching fan.

Q. 4. When on the stand before you referred to a furnace for pitching which you had built upon a plan which you got up about eighteen sixty-two; had you ever seen similar furnaces used for any purpose before you got this plan up; and, if so, for what purpose and how long ago?

A. I just got it from a blast furnace from a foundry; it was at same time, in sixty-two.

Q. 5. I think you do not understand the latter part of my question. How long ago did you first see similar furnaces used as blast furnaces in foundries in any place in this country?

A. I saw that in eighteen forty-six, when Wolf & Co. kept the foundry on Sycamore and Hunt streets, near the canal.

Q. 6. Have you a sketch of your pitching machine above referred to; and, if so, will you produce it as an exhibit in this case?

A. Yes, sir; I have just had it made.

The sketch here referred to is offered in evidence and marked Defendants' Exhibit Sketch of Kauffman's Pitching Machine, and is as follows:

(Here follows diagram marked p. 195.)

196 Q. 7. Did the blast furnace which you saw in Wolf's shop in eighteen forty-six have any pipe connecting with the blower like your pitching machine?

A. Just the same thing. We have got to have a blower to make the hot air; can't do without it.

Q. 8. With what does the pipe beneath the grate in your sketch connect?

A. It connects with the blower.

Q. 9. With what does the pipe at the top connect?

A. With the kegs or hogsheads.

Q. 10. Are the dimensions stated on this sketch substantially correct—that is to say, two feet from the top of the grate to the ground level, four and one-half feet from the ground level to the top of the fire-brick lining, one and one-half feet additional to the top of the cap of the furnace, and three feet in diameter?

A. They are.

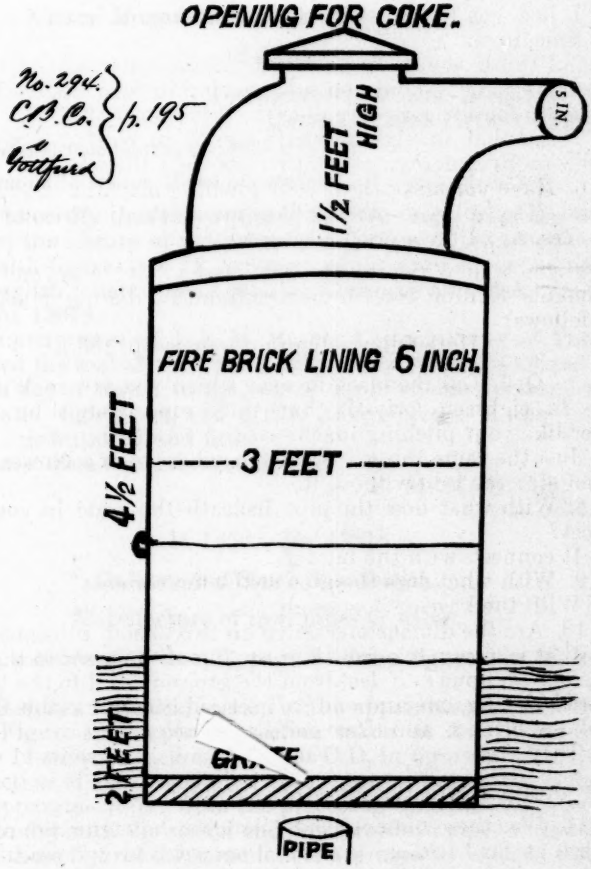
Cross-examination by Mr. BANNING:

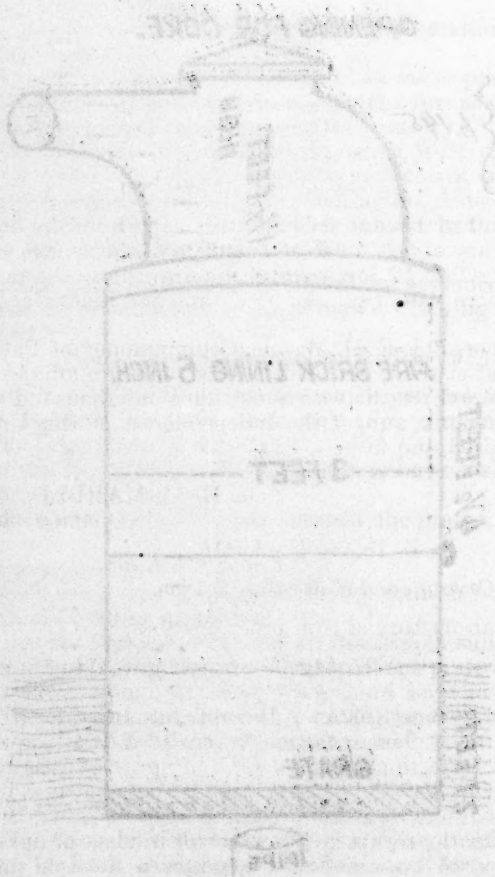
Q. 11. Was these blast furnaces that you have mentioned as having seen as far back as eighteen hundred and forty-six what are called cupola furnaces?

A. Of course; else they couldn't melt the iron.

JOHN KAUFFMAN.

Defendants offer in evidence certified copy of a portion of the specification, with figures nine to twelve, inclusive, of the drawing of English letters patent granted Cochrane and Slate January 3d, 1850, and numbered 12918, marked Defendants' Exhibit "Cochrane and Slate English Patent, January 3d, 1850."


OPENING FOR COKE.
No. 294.
C.B.Co.
Goldfish
p. 195
1½ FEET HIGH
NIS
FIRE BRICK LINING 6 INCH.
4½ FEET
3 FEET
PIPE



197 DEFENDANT'S EXHIBIT COCHRANE AND SLATE ENGLISH PATENT. January 3d, 1850. Dan'l Kelly, Notary Public and Acting Special Examiner.

U. S. C. C., W. D. of S. D. O. In Equity.

MATT. GOTTFRIED *et al.*
vs.
CHRIS. MOERLEIN & Other Cases. } # 2984.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

[Notarial Seal Hamilton County, Ohio.]

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of a portion of the specification, together with figures 9 to 12, inclusive, of the drawing in the matter of the English letters patent granted Cochrane and Slate January 3, 1850, No. 12918.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this nineteenth day of March, in the year of our Lord one thousand eight hundred and eighty-one, and of the Independence of the United States the one hundred and fifth.

[Seal Patent Office United States of America.]

E. M. MARBLE,
Commissioner.

198 A. D. 1850. No. 12918.

Cochrane and Slate's Specification.

Manufacture of iron pipes or tubes.

Extract, commencing line 27, page 3—from figure 9 to 12, inclusive:

Figure 9 shows a vertical section of the apparatus used for drying moulds. Figure 10 is a plan in section taken at A B, in figure 9, and figure 11 shows a section taken at C D, in figure 9. Figure 12 shows a section of another similar apparatus to that shown at figure 9. This apparatus differs from the preceding only inasmuch as it is arranged to dry with the socket end downwards in place of upwards. In each of these figures the same letters are used to indicate similar parts. E is an external cylinder of sheet metal, having the interior cylinder F fixed within it, at the lower part of which is fixed the perforated cylinder; in the one case perforated cone, in the other case as is shewn by the drawing. G is a fireplace constructed of fire-brick, as shewn, the same being supplied with small coke
199 at G′, and H H are outlets where the products escape. A mould in the mould box is placed in position, as shown, and the drying apparatus is lowered over the same; the blast pipe is

then inserted and the products produced pass in the direction of the arrows, and the mould will become quickly dry; and, in like manner, may similar apparatus be constructed to dry two or more moulds at the same time.

We will now describe the fourth part of our invention, which consists of employing mechanical means for withdrawing the air and vapours from retorts or ovens employed in drying cores used for making cast-iron pipes. For this purpose we prefer to employ pumps, but other mechanical apparatus may be employed, to withdraw the air and products from the ovens or retorts employed for drying such cores; by this means the process of drying will be greatly facilitated and improved.

We will now describe the fifth part of our invention, which consists of causing pipes or tubes of iron to be cast with castings of glass. For this purpose we cause the external surfaces of the cores employed to be coated with materials which will be caused to run into glass by the heat of the melted metal when run into the
200 moulds containing such cores, and by which the internal surfaces of the pipes or tubes will have coatings of glass therein; and when it is desired that the external surfaces of cast-iron pipes or tubes should have coatings of glass thereon, then the interiors of the moulds are to be coated with materials which will run into glass when the melted metal is run into the moulds. The compound for forming glass which we prefer to use is as follows: One hundred and thirty parts of flint glass, twenty parts of carbonate of soda, and twelve parts of boracic acid, which are ground and mixed and melted in a glass-maker's crucible; when the same has been cooled it is ground to powder, which is passed through a sieve with sixty meshes to the inch; but we do not confine ourselves to such mixture, this part of our invention consisting of the means of manufacturing cast-iron pipes or tubes coated with glass by obtaining such coatings of glass by the act of casting the pipes. The glass composition in the state of powder may be applied in the dry or wet state. If in the dry state, then the cores or moulds,
201 or both, may have gum water or other adhesive matter applied and the powder be sifted thereon so as to obtain a uniform coating; or the powder may be mixed into a pasty state and spread on the surfaces, and such surfaces, being dried, will be ready for use, and the act of casting pipes or tubes therein will cause the pipes or tubes thus cast to be produced with coatings of glass.

Ex.: M. McK., J. A. W.

(Here follows diagram marked p. 202).

203 Also certified copy of the specification and drawing of English letters patent granted Davison and Symington November 2d, 1843, and numbered 9924, marked Defendant's Exhibit "Davison and Symington English Patent, Nov. 2d, 1843."

204 DEFENDANT'S EXHIBIT "DAVISON AND SYMINGTON ENGLISH PATENT. November 2d, 1843. Dan'l Kelly, Notary Public & Acting Special Examiner.

U. S. C. C., W. D. of S. D. O. In Equity.

MATT. GOTTFRIED *et al.*
vs.
CHRIS. MOERLEIN & Other Cases. } # 2982.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

[Notarial Seal Hamilton County, Ohio.]

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of the specification and drawing in the matter of the English letters patent granted Davison and Symington November 2, 1843, No. 9924.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this nineteenth day of March, in the year of our Lord one thousand eight hundred and eighty-one, and of the Independence of the United States the one hundred and fifth.

[Seal Patent Office United States of America.]

E. M. MARBLE,
Commissioner.

205 A. D. 1843. No. 9924.

Davison and Symington's Specification.

Cleansing and purifying casks, &c.

To all to whom these presents shall come we, Robert Davison, of Brick Lane, Spitalfields, in the county of Middlesex, civil engineer, and William Symington, of East Smithfield, in the county of Middlesex, civil engineer, send greeting:

Whereas her present most excellent majesty, Queen Victoria, by her letters patent under the great seal of Great Britain, bearing date at Westminster, the second day of November, in the seventh year of her reign, did, for herself, her heirs, and successors, give and grant unto us, the said Robert Davison and William Symington, our ex'ors, adm'ors, and assigns, her special license, full power, sole privilege and authority, that we, the said Robert Davison and William Symington, our ex'ors, adm'ors, and assigns, and such others as we, the said Robert Davison and William Symington, our ex'ors, adm'ors, or assigns, should at any time agree with and no others, from time to time and at all times thereafter during the term of years therein expressed, should and lawfully might make, use, exercise, and vend within that part of her majesty's United Kingdom of

Great Britain and Ireland called England, her Dominion of Wales, and the town of Berwick-upon-Tweed, our invention of "a method of cleansing, purifying, and sweetening casks, vats, and other
206 vessels;" in which said letters patent is contained a proviso that we, the said Robert Davison and William Symington, shall cause a particular description of the nature of our said invention and in what manner the same is to be performed, under our hands and seals or under the hand and seal of one us, to be inrolled in her majesty's high court of chancery within six calendar months next and immediately after the date of the said in-part-recited letters patent, as in and by the same, reference being thereunto had, will more fully and at large appear:

Now, know ye that, in compliance with the said proviso, we, the said Robert Davison and William Symington, do hereby declare that the nature of the said invention and in what manner the same is to be performed are fully set forth and described in and by the following specification thereof, reference being had to the drawings hereunto annexed—that is to say:

The nature of our said invention consists, firstly, in freeing the wood of casks and other like vessels, while they are in the course of being manufactured and in an unfinished state, from any injurious coloring or flavoring matters with which it may be impregnated by exposing it to the action of rapid currents of hot air; secondly, in freeing casks and other like vessels, after they have been finished and in use, from any mould, must, fungi, or other like mat-
207 ters which may collect on the inner surfaces thereof, partly by means of a machinery or apparatus which can be applied inside without removing the heads, partly by rinsing, and partly by causing rapid currents of hot air to pass through them, and the manner in which these two branches of our invention are to be performed or carried into effect is as follows:

First. As regards the casks and other like vessels, while they are in the course of being manufactured or in an unfinished state, instead of making them as usual of wood which has been dried or seasoned by long exposure to the atmosphere, and is in that condition difficult to bend without blistering, we make use of wood in its new or green state, in which state it is formed into staves of the desired curvature and free from blister, with great facility. We then form or "block off," as it is called, the casks or other like vessels by putting the staves and heads together and binding them by temporary fastenings, making due allowance for the shrinkage which afterwards take place. We next subject these unfinished casks, vats, or other vessels to the action of a continuous and rapid current of heated air until the wood has exhaled every particle (or nearly so) of its natural sap or other aqueous particles with which it may have become impregnated, and, this done, the casks are finally hooped and finished off in the usual way.

208 The construction of the apparatus by which we produce the rapid current of heated air is represented in figures 1, 2, and 3 of the drawings hereunto annexed, figure 1 being a sectional elevation, figure 2 a plan, and figure 3 a transverse section of the same.

A is the furnace. *a a a* are horizontal pipes which extend along the sides of the furnace, and *b b b* pipes of a horseshoe form, which rise vertically from the horizontal pipes and communicate therewith. *c* is a passage for the inlet to the horizontal pipes of atmospheric air from a fan blower or other impelling apparatus; *d*, a passage for the outlet of the heated air from the pipes, which is furnished with a sluice-cock, D, to prevent the steam, when used, from passing into hot-air pipes; *b b b* and *e e e*, nozzles, through which the heated air rushes into the casks or other like vessels. The arrows indicate the course which the air takes in passing to the nozzles.

Second. As to the cleaning of casks and other like vessels which have been in use, we proceed as follows: We first clear them from all extraneous matters of a solid nature which may have collected on the inside, as mold, must, or fungi, by means of the machine represented in figures 4, 5, and 6 of the drawings hereunto annexed, figure 4 being an elevation, figures 5 and 6 plans of the same.

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a a a are the standard supports of the machine; *b b b*, a frame, which has its bearings and revolves within the standard supports *a*; *c c*, a rigger, which gives motion to the frame *b*; *d*, a driving-pulley fixed on a horizontal shaft, *z*, which gives motion to the rigger *c* through the medium of a chain; *e f g*, an inner frame or cradle, which rests in and turns on bearings *h h h* in the outer frame, *b*, and on which the cask to be cleansed is placed; *i i i*, a ratchet and spring lever fixed on the spindle of the cradle *f g*; *k k*, springs or palls; *l l l*, lever and chain, which secure the casks on the cradle; *m*, a catch to hold the lever; *n n*, an inclined plane for causing the lever to act on the ratchets; *o o*, clutch-handle for throwing the machine in or out of gear; *p*, a plug (shown on an enlarged scale at figure 11), which fits into the bung-hole and from which is suspended inside of the cask a series of cleansing chains separately represented in figures 7, 8, 9, and 10, and immediately afterwards described. First, there is attached to the plug, by means of a staple or eye, a few inches of common chain, *q*, with a swivel, *r*, in some part of its length. To this chain there is attached, by means of a ring, three pieces of large chain *s s s* of about three feet each in length, front and side views of which are given in figure- 7 and 8, and to each of these lengths of large chain are attached by a ring three pieces *t t t* of smaller chains, each of about twelve inches long, front and side views of which are given in figures 9 and 10, the length and size of the chains being always proportionate to the size of the cask or other vessel. The action of the machine is as follows: The cask or other vessel having been secured in the cradle *f g* motion is given by the horizontal shaft or driving pulley *d* to the rigger *c* which causes the frame *b* and cradle *f g* to revolve. As soon as the ratchet and lever *i i*, affixed to the spindle of the cradle, reach the bottom part of the machine the lever comes in contact with the inclined plane and causes it to act on the ratchet and thereby the cradle to move sidewards to the extent of one tooth of the ratchet and so on for every revolution; the outer frame makes the cradle or inner frame moves

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sideways and completes an additional tooth in the ratchet. The chains, meanwhile, by the numerous angular points which they present to the inner surface of the cask, detach whatever foreign substances may be adhering thereto. After this cleansing has been affected the chains are easily withdrawn from the cask by means of the plug to which they are attached. In some cases we
211 find it advantageous to use shingle, sand, or other granulated substance in combination with the chain, or these substances may be used separately. We next rinse them well, preferring to use, in the case of beer barrels, a small quantity of beer of the same sort as that with which it is intended to fill them subsequently; in the case of spirit casks this process may be dispensed with, as the wood of the casks may have imbibed various noxious matters which the mechanical operation of the chains could not remove. We next, in order to get rid of such matters also and thus sweeten the casks thoroughly, expose them to the action of a rapid current of hot air by placing them with their bung-holes over the nozzles *e e* of the hot-air apparatus before described, taking care first to remove the corks from the tap holes so that a free passage may be left for the aqueous and other vapors generated by the action of the stream of hot air. When a very high temperature is found necessary to purify the casks from every perceptible taint or must or charr or other bad odour it may be found useful to introduce along with or in addition to the hot air a small quantity of steam, and for this purpose there is a boiler (*f*, figures 1 and 3), placed over the heating pipes, having a pipe (8) furnished with a sluice cock (9), through which the requisite supply of steam may be conveyed into the hot-
212 air exit pipe. The drawings, figures 4, 5, and 6, represent only two casks as mounted on the machine, but any number of frames and casks may be made to revolve at one and the same time by the application in any of the various well-known methods of driving pulleys or wheels set in motion by any adequate power.

And having now described the nature of said invention, and in what manner the same is to be performed, we declare that though we have spoken of atmospheric air as that which is heated and driven in rapid currents into contact with the casks, vats, and other vessels to be cleansed, purified, and sweetened, we do not limit ourselves to the use of such air alone, but claim a right to the use of any other sort of air which, being heated and driven in rapid currents as aforesaid, will produce the like effects; and we declare that what we claim is—

First. The employment in manner aforesaid of rapid currents of hot air to effect the cleaning, purifying, and sweetening of casks, vats, and other vessels;

Second. The employment in manner aforesaid of rapid currents of hot air in combination with currents of steam; and,

Third. The machine hereinbefore described for cleansing the insides of casks and other like vessels without removing the
213–214 heads, and all mere modifications thereof by which the same peculiar results are produced.

In witness whereof we, the said Robert Davison and William Symington, have hereunto set our hands and seals this second day of May, one thousand eight hundred and forty-four.

ROBERT DAVISON. [L. S.]
WILLIAM SYMINGTON. [L. S.]

And be it remembered that on the second day of May, in the year of our Lord 1844, the aforesaid Robert Davison and William Symington came before our said Lady the Queen, in her chancery, and acknowledged the specification aforesaid, and all and everything therein contained and specified, in form above written; and also the specification aforesaid was stamped according to the tenor of the statute made for that purpose.

Enrolled the second day of May, in the year of our Lord one thousand eight hundred and forty-four.

Duckworth. Exd.: E. A. M., H. M. H.

(Here follows diagram marked p. 214.)

215 Also certified copy of specification and drawing of English letters patent granted C. P. Devaux, October 8th, 1835, and numbered 6901, marked Defendant's Exhibit "C. P. Devaux English Patent, October 8th, 1835."

DEFENDANT'S EXHIBIT "C. P. DEVAUX ENGLISH PATENT. October 8th, 1835." Danl Kelly, Notary Public & Acting Special Examiner.

U. S. C. C., W. D. of S. D. O. In Equity.

MATT. GOTTFRIED *et al.*
vs.
CHRIS. MOERLEIN & Other Cases. } # 2982.

[2–175.]

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

[Notarial Seal, Hamilton County, Ohio.]

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of the specification and drawing in the matter of the English letters patent granted C. P. Devaux, October 8th, 1835, No. 6901.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this nineteenth day of March, in the year of our Lord one thousand eight hundred and eighty-one, and of the Independence of the United States the one hundred and fifth.

[Seal Patent Office United States of America.]

E. M. MARBLE,
Commissioner.

216 A. D. 1835. No. 6901.

Devaux's Specification.

Smelting iron ores.

To all to whom these presents shall come, I, Charles Pierre Devaux, of Fenchurch street, in the city of London, merchant, send Greeting:

Whereas his present most excellent majesty, King William the Fourth, by his letters patent under the great seal of Great Britain, bearing date, at Westminster, the eighth day of October, in the sixth year of his reign, did for himself, his heirs, and successors give and grant unto me, the said Charles Pierre Devaux, his especial licence, full power, sole privilege, and authority that I, the said Charles Pierre Devaux, my ex'ors, adm'ors, and assigns, or such others as I, the said Charles Pierre Devaux, my ex'ors, adm'ors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend within England, Wales, and the town of Berwick-upon-Tweed, the invention of "Cer-
217 tain improvements in smelting iron, stone, or iron ore," communicated to me by a certain foreigner residing abroad, in which said letters patent is contained a proviso that I, the said Charles Pierre Devaux, shall cause a particular description of the nature of the said invention, and in what manner the same is to be performed, to be inrolled in his said majesty's high court of chancery within six calendar months next and immediately after the date of the said in-part-recited letters patent, as in and by the same, reference being thereunto had, will more fully and at large appear:

Now, know ye that, in compliance with the said proviso, I, the said Charles Pierre Devaux, do hereby declare the nature of the said invention and the manner in which the same is to be performed are fully described and ascertained in and by the following description thereof, reference being had to the drawing hereunto annexed and to the figures and letters marked thereon (that is to say):

The improvements relate to the placing or arranging of certain apparatus between the ordinary blowing machine and the furnace which contains the iron stone or iron ore to be smelted, whereby the blast of atmospheric air caused by the ordinary blowing
218 machinery is forced through and amongst the fuel in a fire enclosed in such superadded apparatus, and whereby the atmospheric air so forced supports combustion in such fire, becomes heated, and in some degree decomposed, and is thence constantly forced forward by the pressure of condensed air in the apparatus (carrying with it the gas and vapors evolved by the fuel in the fire) into and becomes a heated and gaseous blast to the ordinary furnace containing the iron stone or stone ore to be smelted; great improvement will take place in the process of smelting iron stone or iron ore and fuel saved.

In order that the invention may be more fully understood I will first describe the arrangement of apparatus constructed according to the invention as communicated to me from abroad. I will then point out those parts of the apparatus, the peculiar arrangement of which constitutes the improvements claimed under the present letters patent.

Description of the Drawing.

Figure 1 represents a longitudinal section of the apparatus constructed according to the invention for supplying a constant blast of heated and partly decomposed atmospheric air, gas, and
219 vapours to the ordinary furnace containing the iron stone or iron ore. Figure 2 is a plan (also in section) of the apparatus. In each of these figures the same letters indicate the same parts. The apparatus I prefer to be arranged as follows:

The chambers A, B, and C are formed of plates of iron connected by screw bolts or otherwise, the joints being properly stopped and perfectly secured with ordinary iron cement in order not to leave any opening for the escape of the condensed air which they are to contain. The chamber A is sufficiently large to admit a man into it in order to feed and examine the state of the fire, as hereafter described; B is another chamber, into which the man first enters, and C is the chamber in the upper part of which a furnace or fireplace is constructed. D E are pipes to convey the heated and partly decomposed atmospheric air, gas, and vapours from the fireplace or furnace, *or* constructed in C, through the *tewyer* pipe to the furnace containing the iron stone or iron ore. The lower part of the chamber C forms the ash pit M, which is open to the chamber A so as to permit the free passage of air. The chamber A communicates with the chamber B by an opening sufficiently large to allow of a
220 man to pass from one to the other. The chamber B communicates with the atmosphere by a similar opening. These openings are covered by doors P P′, which are made of plates of iron, and their edges are faced with leather or other material to close the same air-tight. These doors can be easily opened when the pressure is not greater than that on the outside, as they turn upon iron pivots or hinges and open inwards. In these doors are openings, *a a*, which are covered with a plate or disc of metal which can be turned from the outside or inside, and the openings and plates being so formed and arranged that in turning the plates the openings are uncovered and passage left for the air in A to pass into B to equalize the pressure on the two sides of the door P or the air in B to pass into the outer atmosphere and to equalize the pressure on the two sides of the door P, as is more fully described hereafter, in order that the doors P P′ may be opened. On the upper part of the chamber A is a valve, L, opening inwards. In the chamber C are placed the fire bars F. The sides and part of the top of the chamber C above the fire bars are cased with fire bricks, which are separated from the plates of iron of which

the chamber is formed by several inches of sand or
221 ashes or any other bad conductor of heat. The conduit pipes D and E are formed of iron and lined with brick, stone, or other material suitable to bear a high temperature. The pipe E may be made to move backward or forward, when required, by means of a wheel and collar, as shewn in the drawing, the ends being formed so as to fit close by the ends of the pipes in which they are inserted when at work. The fireplace C has an opening, G, to feed the fire with fuel and to clean the fireplace when requisite. This opening G is shut and opened by means of a small valve, as shewn by the drawing. The chamber A communicates with a blowing machine of any of the known constructions by the pipe *k*. This communication between the chamber A and blowing machine may be at any part of that chamber, as local circumstances may make convenient. In the drawing this communication is shown at one side of the chamber A at *k*.

From the foregoing description, aided by an examination of the drawing, the construction of the apparatus will readily be understood.

I will now proceed to describe the manner of working the
222 same: A fire being lighted at F, the door P and the valve L being shut, the atmospheric air from the blowing machine comes in through the opening *k*, it fills the chamber A and presses against the door P of that chamber A, and also on the valve L, and thereby keeps the same closed by the pressure of the condensed air. The air forced into the chamber A, in filling that chamber and also the ash pit M, presses up through the fire at F and supports combustion; it is pressed forward, carrying with it the gas and vopours evolved by the fuel. This partly decomposed air, gas, and vapours are forced into the smelting furnace where they operate more effectually in smelting the iron, stone, or iron ore, and produce great economy in the process.

I will now explain how the feeding the fire with fuel is performed in the midst of the compressed air in the chamber A: The man having entered into the chamber B and the door P to that chamber, and also the opening *a* in that door being shut, it is necessary to turn the handle of the opening *a* in the door P to establish a communi-
cation between A and B; this being done, the compressed air
223 from A enters into the chamber B and causes an equal pressure in both chambers, and the weight which presses against the door P being equal on both sides it may readily be opened and permit the workman to enter into the chamber A and clean out the grate and feed the fire at the opening G with nearly the same facility as if it were free from compressed air. If the blowing machine should stop whilst the man is in the chamber A, and there should be any partly decomposed air or gas therein which would be injurious to the workman if ventilation of fresh air was not immediately accomplished, the valve L, not being pressed on by a continuance of compressed air, would open and admit of the escape of the impure air, and thus prevent the workman from running any risk of being injured. I would also remark that the fuel to be used in the fire-

place F is pit coal, coke, charcoal, or a combination of these or other well-known materials. It should be understood that I am aware that furnaces for smelting iron stone or iron ore have been before worked by means of a blast or currents of heated atmospheric air, and a patent was obtained by James Beaumont
224 Neilson on or about the eleventh day of September, one thousand eight hundred and twenty-eight, for an apparatus for heating atmospheric air in its progress from the blowing machine to the furnace containing the iron ore or iron stone; but in such apparatus the atmospheric air did not pass into and amongst the burning fuel contained in a closed fireplace similar to that described in this specification, but such atmospheric air was heated by its being driven or forced through vessels heated from without, the vapours and gas evolved by the fire by which such vessel is heated not passing into the furnace containing the iron ore or iron stone; and there was also another patent obtained by Thomas Botfield on or about the second day of January, one thousand eight hundred and twenty-eight, in the specification of which it was proposed to draw atmospheric air through a fire and thence into and through the furnace which contained the iron stone or iron ore; but in this last-mentioned patent it was essential to have a high chimney, with flues from the smelting furnace thereto, in order to obtain a draft to the furnace; but by the invention secured by the present letters patent no additional
225 chimney is required to produce a draft; and also the said Thomas Botfield in some instances proposes in his specification to use common blowing machinery in aid of the draft produced by a chimney, but in such cases the air is forced by the blowing machine directly into the furnace containing the iron stone or iron ore, and is not first forced into a chamber, A, similar to that herein described, nor does the compressed air feed and support the combustion of a fire in a close fireplace, such as is herein fully described. I would, therefore, wish to be understood that I do not claim as new the application of heated air combined with gas or vapours evolved by a fire, unless the operation be performed by an apparatus constructed by forcing air through the fire which heats it; but I do hereby claim the constructing and using an apparatus of a like nature as that above described, between the blowing machine and the furnace containing the iron ore or iron stone to be smelted, in such manner that the blast proceeding from the blowing machine shall pass into and amongst the ignited fuel and support combustion in a closed fireplace, and from thence the heated
226 and partly decomposed air from therein by the pressure of the continued working of the blowing machine, urged onwards (carrying with it the gas and vapours evolved by the ignited fuel) into the furnace containing the iron ore or iron stone, by which means much saving in fuel, in addition to other advantages, will be obtained in the process of smelting iron or iron stone; such apparatus being so arranged as to admit of a man managing the fire during the time that condensed air is being forced through the fireplace as above described.

In witness whereof I, the said Charles Pierre Devaux, have hereunto set my hand and seal this eighth day of April, in the year of our Lord one thousand eight hundred and thirty-six.

C. P. DEVAUX. [L. S.]

And be it remembered that on the eighth day of April, in the year of our Lord, 1836, the aforesaid Charles Pierre Devaux came before our said Lord the King in his chancery, and acknowledged the specification aforesaid and all and everything therein
227 contained and specified, in form above written; and also the specification aforesaid was stamped according to the tenor of the statute made for that purpose.

Inrolled the eighth day of April, in the year of our Lord one thousand eight hundred and thirty-six.

Tarrer. Ex'd: H. M. H., E. S. M.

(Here follows diagram marked p. 228.)

229 Also certified copy of specification of English letters patent granted J. B. Neilson September 11th, 1828, and numbered 5701, marked Defendant's Exhibit "J. B. Neilson's English Patent, September 11th, 1828."

Also certified copy of specification and drawing of English letters patent granted G. H. Bovill January 31st, 1846, and numbered 11067, marked Defendant's Exhibit "G. H. Bovill's English Patent, January 31st, 1846."

Also certified copy of specification and drawing of English letters patent granted Cochrane and Galloway May 4th, 1818, and numbered 4253, marked Defendant's Exhibit "Cochrane and Galloway English Patent, May 4th, 1818."

Also certified copy of specification and drawing of English letters patent granted A. E. L. Bellford January 12th, 1854, and numbered 83, marked Defendant's Exhibit "A. E. L. Bellford English Patent, January 12th, 1854."

Also certified copy of specification and drawing of English letters patent granted John James Russell February 16th, 1859, and numbered 435, marked Defendant's Exhibit "John James Russell English Patent, February 16th, 1859."

Also certified copy of provisional specification, filed January 24th, 1860, numbered 183, *in re* application of I. L. Bell for English letters patent, marked Defendant's Exhibit "I. L. Bell English Specification, filed January 24th, 1860."

Also certified copy of specification of English letters patent granted John James Russell January 8th, 1857, and numbered 72, marked Defendant's Exhibit "John James Russell English Patent, January 8th, 1857."

Also certified copy from extract of Tomlinson's Cyclopedia of Useful Arts, published at London and New York in 1854, appearing on page 665 and figure 2015 in volume two thereof, marked Defendant's Exhibit "Extract from Tomlinson's Cyclopedia of Useful Arts, 1854."

230 DEFENDANT'S EXHIBIT "EXTRACT FROM TOMLINSON'S CYCLOPEDIA OF USEFUL ARTS, 1854." Dan'l Kelly, Notary Public and Acting Special Examiner.

U. S. C. C., W. D. of S. D. O. In Equity.

MATT. GOTTFRIED *et al.*
vs.
CHRIS. MOERLEIN & Other Cases. } # 2982.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

[Notarial Seal Hamilton County, Ohio.]

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of the description and figure 2015 of the drawing, said copy to be found in a volume entitled Tomlinson's Cyclopædia, Vol. II, Ham-Zir, published in 1854.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this nineteenth day of March, in the year of our Lord one thousand eight hundred and eighty-one, and of the Independence of the United States the one hundred and fifth.

[Seal Patent Office United States of America]

E. M. MARBLE,
Commissioner.

231 *Tomlinson's Cyclopedia of Useful Arts, London & New York,* 1854.

Description of figure 2015, page 665.

Small works may sometimes be united by moistening the cleaned surfaces with sal-ammoniac water or by the application of resin, and then placing between them a slip of tin-foil cleaned with emery paper; on pinching the whole together between a pair of heated tongs the foil will melt. The blow pipe is also used in many cases of soft soldering. The gas-fitters use the blow pipe in joining tin and lead pipes; they do not employ the spigot-and-faucet joint with a bulb of solder around it, but cut off the ends of the pipes with a saw, and file the surfaces intended to meet in butt joints, in mitres, or in T-formed joints, as required. They use a rich tin solder with oil and resin mixed in equal parts as the flax. Mr. Holtzapffel remarks that the work looks more like carpentry than soldering. The gas-fitters and pewterers employ a portable torch made of 3
232 or 4 dozen rushes with only a slight coating of tallow and retained in a paper sheath. The pewterers have a kind of blow pipe or hot-air blast, consisting of a common cast-iron pot, *h*, Fig. 2015, with a close cover, containing ignited charcoal and termed a hod; it has a nozzle, *b*, leading into it, which supplies air from bel-

lows worked by the foot, and another nozzle, *n*, which directs the current of hot air upon the article to be soldered. This is placed upon a support, *g*, called a gentleman, which admits of being adjusted to the required height by a side screw. The strip of solder is dipped into oil and applied to the joint with the right hand while the work is slowly turned round with the left. The solders used by pewterers are termed hard-pale, soft-pale, and middling-pale. The first corresponds with No. 8 in the list of solders. The soft-pale contains 2 parts tin, 1 of lead, and 1 of bismuth.

Ex'd: H. M. H., E. A. M.

(Here follows diagram marked p. 233.)

233 Also certified copy of extract from Handbuch fur Bier-Brauer, published in 1854, at Braunschweig, said extract being found on pages 116 to 118, inclusive, marked Defendant's Exhibit "Extract from Handbuch fur Bier-Brauer, 1854."

234 DEFENDANT'S EXHIBIT "EXTRACT FROM HANBUCH FUR BIER-BRAUER, 1854. Dan'l Kelly, Notary Public and Acting Special Examiner.

U. S. C. C., W. D. of S. D. O. In Equity.

MATT. GOTTFRIED *et al.*
vs.
CHRIS. MOERLEIN & Other Cases. } # 2982.

(2—175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

[Notarial Seal Hamilton County, Ohio.]

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of an extract found on pages 116 to 118, inclusive, from a volume entiled Muller Handbuch fur Bier-Brauer, published in 1854. Said volume was received in library of Patent Office of the United States, at Washington, D. C., March 12, 1855.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this nineteenth day of March, in the year of our Lord one thousand eight hundred and eight-one, and of the Independence of the United States the one hundred and fifth.

[Seal Patent Office United States of America.]

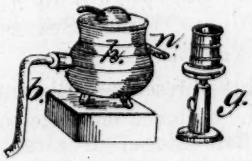
E. M. MARBLE,
Commissioner.

Tomlinson's Cyclopaedia.

Vol. II. Page 665.

No. 294.
Crescent Sewing Co.
Gottfried
p. 233

Fig. 2015.



235 *Extract from Müller's Handbuch für Bierbrauer. Braunschweig*, 1854.

From page 116 to page 118, inclusive.

Eine weitere Methode, welche hier zu Lande vielfach — Anwendung gebracht wird, und gegenüber dem eben beschriebenen Verfahren mannigfache Vortheile gewährt, wenn man nämlich damit umzugehen weisz, ist das Auspichen der Fässer mit der Maschine.

Es können jedoch mittelst dieser Vorrichtung nur solche Fässer gepicht werden, die am vorderen Boden wit einem Thürchen versehen sind, indem die Maschine ins Innere des Fasses gestellt werden muss.

Diese Maschine is sehr einfach und besteht nur aus einem viereckigen gusseisernen oder aus starkem Sturzblech gefertigten Kohlenbecken, 1½ bis 2 Fuss lang, 5 bis 6 Zoll breit und 7 bis 8 Zoll hoch (bad. Mass), überhaupt von der Grösse, dass es zu der Oeffnung des Fassbodens bequem hinein- und auch wieder herausgehoben
werden kann, mit vier nur 1 Zoll langen Füsschen, und auf
236 der einen schmalen vorderen Seite, 2 Zoll von unten herauf, mit einem Loch (von der Grösse eines grossen Zapfenlochs), und an dem oberen Ende, hinten sowohl als vorn, mit einer eisernen Handhabe versehen. Ferner gebraucht man noch dazu ein gewöhnliches Ohmfass, welches auf ein hölzernes Unterlager mittelst besonderer Reife befestigt wird, und in dessen vorderen Boden sich über einem etwa in der Mitte desselben eingebohrten Zapfenloche ein 2 Zoll langes, mit einer Blechscheibe versehenes festgenageltes Rohr (sogenannte Blechhülse oder Zott) befindet, dann ein 3 bis 4 Fuss langes, 1½ Zoll weites, etwas nach vorn zugespitztes Rohr, wovon der hintere weitere Theil zur Hälfte aus Weissblech, der spitzere Theil aber aus Schwarzblech besteht, dessen Fuge gut übereinander gefalzt und vermietet ist, und endlich noch einen guten Fussblasbalg.

Will man nun zur Auspichung der Fässer schreiten, so verfährt men dabei auf folgende Weise:

Man stellt, wie bei der ersten Methode, den Pechkessel über
237 Feuer, lässt darin die nöthige Quantität Pech gut verschmelzen, und, sowie dasselbe recht dünnflüssig geworden, schöpft man mit dem Schöpflöffel die erforderliche Menge Pech durch das offene Thürchen in das gut getrocknete, vorher noch nie ausgepicht gewesene oder neue Fass, zieht dann das Thürchen vor und shraubt den Riegel mit der Schraube fest. Hierauf wiederholt sich das bereits angegebene Verfahren, indem das Fass von einem Boden zum anderen umgekehrt, und von einer Seite zur anderen gewendet wird, wo man dann endlich den Spunden und Zapfen öffnet und das an den ineren Wänden des Fasses angehängte Pech abkühlen lässt.

Dies die vorbereitende Arbeit: Man giebt nun dem Fasse, indem man es auf zwei niedere Lagerhölzer legt, durch Andrücken dreikantiger Schliessen eine ebene aber feste Lage, wobei das Spundloch geöffnet und das Fassthürchen wieder herausgenommen wird. Ist

dies geschehen, so bringt man eine Schaufel voll brennender Kohlen in die eiserne Machine (Kohlenbecken), füllt sie dann bis oben mit anderen Holzkohlen voll, stellt sie zur Thürchenöffnung
238 hinein in's Fass, und schlisst die Oeffnung des Fassbodens wieder so, dass man das Thürchen auf die gewöhliche Weise einsetzt und zuschraubt. Nun wird das von Schwarzblech gefertigte dünere Ende des Rohrs durch das offene Zapfenloch des Thürchens und durch das in der Maschine befindliche loch, welches sich mit ersterem in gleicher Höhe und Richtung befinden muss, bis in die brennenden Kohlen eingeschoben, das andere Ende des Rohrs aber über die an den vorderen Boden des Ohmfasses angenagelte Blechhülse, welche ein wenig enger als das Rohr sein muss, in der art eingesteckt und in Verbindung gesetzt, dass mann durch Anrücken des kleinen gegen das grosse Fass, so dass sich zwischen beiden Fässern noch ein Raum von 2 bis 3 Fuss befindet, und durch Umwickeln des Rohrs mit Werg oder Leinwand dasselbe da, wo es susammengesteckt ist, luftdicht verschliesst, worauf dann der Blasbalg in das Spundloch des kleinen Fasses gut eingesetzt und nun, durch ein beständiges Aufziehen und Niederdrücken desselben, ein fortwährender Luftzug, der von dem kleinen Fass durch das Rohr und von da in die Maschine geht, unterhalten wird, wodurch
239 man das ganze Kohlenbecken nach und nach in Gluth versetzt. Durch die von den glühenden Kohlen ausströmende Hitze wird das an den inneren Wänden des Fasses angelegte Pech in Fluss gebracht, und indem mit jedem durch den Blasbalg bewirkten Luftstoss auch ein nach Pech riechender Rauch zum Spundlock des Fasses ausströmt, wird etwa nach Verlauf einer halben Stunde das ganze Fass von allen Seiten, namentlich auch gegen unten, so erwärmt, dass nachdem man den Spund wieder fest eingeschlagen hat, alsdann zur weiteren Arbeit geschritten werden kann. Unterdessen wurde auch im Kessel ein- Quantität Pech wieder heiss gemacht, und sowie nun das Fassthürchen geöffnet und die Maschine, in welcher die Kohlen zu einer kleinen Gluth verbraunt sein müssen, herausgenommen ist, nimmt man einige Schöpflöffel voll heisses Pech aus dem Kessel, bringt sie in das Fass, setzt das Thürchen ein, verschliesst solches und schlägt den Zapfen in dasselbe fest ein.

Nun beginnt man auch hier mit dem Fasse dieselben
240 Bewegungen zu machen, wie bereits schon mehrmals angegeben wurde, indem man solches von einen Boden zum anderen umstürzt, nach allen Seiten dreht und wendet, damit die inneren Wände von dem fliessenden Pech bespült werden, worauf der Spunden herausgeschlagen, der hoch in die Luft fliegt, und wieder eingesetzt wird, auch nimmt man mit dem Fasse eine Ueberlerrung vor, damit das etwa überflüssige Pech wieder herausfliessen kann, und lasst es dann noch (auf die angegebene Weise) eine Zeitlang hin- und herrollen, bis das Pech im Fass erkaltet ist.

Nach dieser Methode zu pichen kommt also das im Fass befindliche Pech nicht in Brand, und es ist daher eben so wenig eine Feuersgefahr dabei zu befürchten, als auf der anderen Seite die Fässer nicht im Geringsten Noth leiden, wie es bei dem ersteren Verfahren, durch Aufschlagen und Ausbrennen der Fall ist, was

gewiss hoch in Anschlag gebracht werden kann, während ausserdem bei der Anwendung eines reinen aromatischen Pechs der Wohlgeschmack für das Bier erhalten wird und night durch das Ausbrennen verloren geht.

241 Man sollte daher glauben, dass durch die so augenfälligen Vorzüge, welche das Auspichen mit der Maschine gewährt, das andere Verfahren schon längst verdrängt worden wäre, was aber bis jetzt noch nicht der Fall ist, indem, wie im Eingange erwähnt, das Pichten mit der Maschine eine viel grössere Aufmerksamkeit als das gewöhnliche Verfahren darin erfordert, dass, wenn man den rechten Moment nicht trifft, *wo* die Wärme des Pechs seinen Fluss verliert und sich in ungleicher Dicke, oft theilweise in finger dicken Schalen, im Innern des Fasses anlegt, welche dann auch leichter lossprungen und den Bier kahle Stellen bieten, was weder gut noch angenehm ist.

Ex'd : A. R.

Also extract commencing on page 138, and following from Der Bierbrauer, published in Leipsic, Germany, in 1861, marked defendant's exhibit "Extract from Der Bierbrauer, 1861."

[Endorsed :] German Handbuch für Bierbrauer. 1854.

242 DEFENDANT'S EXHIBIT "EXTRACT FROM DER BIERBRAUER, 1861." Dan'l Kelly, Notary Public and Acting Special Examiner.

U. S. C. C., W. D. of S. D. O. In Equity.

MATT. GOTTFRIED *et al.*
vs.
CHRIS. MOERLEIN & Other Cases. } # 2982.

[Notarial Seal Hamilton County, Ohio.]

Ueber das Austrocknen und Verdichten der Fässer, entnehmen wir den "Neuesten Erfindungen" einen sehr belehrenden Aufsatz des Herrn Professor Pless und begleiten denselben mit einigen Anmerkungen.

I.

Der Verbrauch von Fässern als Gefässe für mancherlei Flüssigkeiten hat sich bereits so ausgedehnt, dass in manchen Ländern die vorhandenen Eichenwaldungen nicht mehr genügen, und daher der Preis der Fässer immer mehr in die Höhe geht. Somit ist es zeitgemäss, an die bessern Erhaltung der eichenen Fässer zu denken, und auf Mittel zu sinnen, um auch aus jenen aus weichen Holze dichte und brauchbare Gefässe herzustellen. In Bezug auf ersteren Punkt ist schon viel gewonnen, wenn man durch ein rasches Austrocken der Fässer, welche man zum Zwecke des Auswaschens oder des Probirens auf ihre Dichtheit gemässt hat, das Fäulen derselben verhütet.

243 Will man Fässer oder überhaupt Gefässe mit engen Oeffnungen rasch austrocknen, so müssen sie vorerst gut austropfen, nachher aber muss ein Luftstrom durch dieselben geleitet werden. Je trockner und wärmer dieser Luftstrom ist, und je schneller er durchgeleitet wird, desto rascher geht das Austrocknen vor sich. Es handelt sich also immer um eine Wärmqeuelle und um eine Kraft, um die erwärmte Luft durch das Fass zu treiben.

Unter trockner Luft ist natürlich nicht eine solche gemeint, welche gar keine Feuchtigkeit enthielte, sondern nur solche, welche für ihren Wärmegrad noch nicht mit Feuchtigkeit gesättigt und daher im Stande ist, noch mehr Wasserdampf, z. B. aus dem Fasse, aufzunehmen. In diesem Falle kann also eine Luft von 15° R. Wärme, welche ganz feucht, d. h. mit 12.8 Gr. Wasserdampf auf den Cub.-Mtr. beladen ist, dennoch wieder für trocken gelten, nachdem man sie, z. B., auf 30° erwärmt hat, denn bei 30° kann sie noch 15.7 Gr., also im Ganzen 28.5 Gr. Wasserdampf aufnehmen, um gesättigt zu sein.

Nebstdem aber, dass Wärme die Luft trockner macht,
244 kann sie auf noch in mehrerlei Weise als bewegende Kraft benutzt werden, um die trockene Luft durch die Gefässe zu treiben. Wir bedürfen also für unsern Zweck trockner Luft und einer bewegenden Kraft, und in der Regel noch einer Wärmequelle zum Trocknen der Luft und zum Bewegen derselben. In der Praxis können diese Bedingungen vielfältig werknüpft und angewendet werden ; wir wollen einige Fälle hervorheben:

1. In der warmen Yahreszeit bei trockner und bewegter Luft trocknen Fässer mit zwei Oeffnungen ziemlich rasch aus, wenn man sie im Freien so aufstellt, dass die grosse Oeffnung gegen den strömenden Wind, das Spundloch aber nach oben zu liegen kommt. Weit besser ist es noch, wenn man die Fässer niederlegt, so dass die Fasslänge mit der Windesrichtung einen spitzen Winkel bildet und das kleine Spundloch hinter dem Winde zu liegen kommt. Die andern Fässer werden nun so angereiht, dass die Reihe selbst auf der Windesrichtung senkrecht steht; jedes folgende Fass wird dabei so weit hingeschoben, dass die grossen Oeffnung en unbedeckt bleiben. Man kannn ganz gut zwei Reihen auf einander legen.

245 2. Fässer mit einer Oeffnung können in der Sonne getrocknet werden, wenn man sie mit der Oeffnung nach oben aufstellt, und Röhren von Schwarzblech so in die Oeffnung einsenkt, dass sie mit $\frac{3}{5}$ ihrer Länge in das Fass hineinhängen und mit $\frac{2}{5}$ derselben noch herausstehen ; der Durchmesser des Rohres ist um $\frac{1}{5}$ kleiner als jener der Fassöffnung. Seine Länge kommt der Tiefe des Fasses gleich ; die zwei Enden eines dicken drahtes, der um die Röhre geschlungen wird, sind die Axe, womit das Rohr auf den Fasse ruht. Indem die Sonne das schwarze Blechrohr erwärmt, erhält die Luft darin Steigkraft und zieht die feuchte Luft aus dem Fasse, und von aussen strömt die trockene Luft durch die Oeffnung.

3. In der kältern Yahreszeit muss das Austrockenen mit Hülfe einer Wärmequelle und in geschlossenen Räumen vorgenommen werden. Dieser Raum muss einen Kamin haben, dessen Quer-

schnitt sich nach der Zahl der Fässer richtet, welche auf einmal auszutrocknen sind. An dem Kamine wird in der Höhe von 4–5 Fuss eine aus Holz oder Mauer gefertigte Erweiterung angebracht, an deren Wandung so viel blecherne Röhren eingelegt wer-
246 den, als Fässer auf einmal getrocknet werden. Diese Röhren ragen 4–5 Zoll aus der Vorkammer heraus und werden durch kurze Röhren aus Kautschuk oder gefirnisstem Leder mit andern Blechröhren luftdicht verbunden, welche in die zu trocknenden Fässer eingesenkt werden. (Die Fässer werden nun um die Kammer herum aufgestellt, weswegen es zweckmässig ist, dass diese etwas in's Lokal hineinreicht.) Die wärmere Luft des Lokales dringt nun in die Fässer, nimmt hier Wasser auf und strömt durch die Röhren in den Kamin, der dadurch Zug erhält. Das Lokal muss natürlich geheizt werden, was am sparsamsten auf die Art geschiet, dass man einen kleinen Schachtofen, 1–1½ Fuss weit, 2–2½ Fuss hoch, aus Ziegeln herstellt, denselben mit einem Roste versieht, und ihn durch einen Kanal von aussen mit Luft speist. Auf dem Roste dieses Ofens werden Koaks oder Holzhohlen, oder auch kleines trockenes Holz angezündet. Bei Anwendung von Scheiterholze, Steinhohlen und Torf würde man zu rauchige Luft durch die Fässer leiten und den Geschmack der einzufüllenden Stoffe verderben; deshalb verlangen diese Brennstoffe einen eisernen Ofen, dessen Rauchrohr in denselben Kamin geleitet wird, in welchen die Röhren der Fässer einmünden. Der Ofen ist von aussen zu heizen und erhält
247 einen hohen Mantel, welcher von aussen mit Luft gespeist wird. Das Lokal soll nicht grösser sein als eben zur Manipulation nothwendig ist. Thüren und Fenster werden durch Watteschnüre, die man in deren Falzenecken mit Kleister einklebt, gedichtet.

4. Will man bei gröserer Wärme oder mit grösserer Schnelligkeit trocknen, so muss man die vom Ofen erwärmte Luft unmittelbar durch die Fässer leiten. Dabei ist folgende Einrichtung zu empfehlen. In einem ebenerdigen Lokale wird in der Mitte desselben 3 Fuss Erde ausgehoben, um einen Ofen nach Art eines Sparherdes anbringen zu können. Der Herd wird ebenfalls in die Erde vertieft, mit Platten belegt und zur Wand geführt; hier wird ein Rauchrohr angebracht und mit sehr geringer Steigung zu dem noch einige Fuss entfernten Kamin geführt. Die zu erwärmende Luft wird von aussen zugeführt und in einen gemauerten horizontalen Kanal geleitet, der zuerst das Rauchrohr umschliesst und dann über den Platten des Herdes bis zum Ofen fortläuft, hier jedoch, also in der Mitte des Lokales, senkrecht 4 bis 5 Fuss hoch aufsteigt.
248 Wird nun der Ofen geheizt, so wird die Luft im ganzen Kanale erwärmt; am meisten erhitzt wird sie aber zunächst am Ofen unter dem senkrechten Theile der Kanales; hier wird sie also auch die grösste Steigkraft erhalten und mit einer gewissen Schnelligkeit in das Lokal hineinströmen, während von aussen kalte Luft nachströmt und der Wärme entgegen geht.

Die Steigkraft der erwärmten Luft wird noch vermehrt durch den Zug des Ofens und den des Kamins. Die feuchte Luft de Lokeles wird nämlich durch eine Oeffnung in den Kamin abgeleitet, so jedoch,

dass sie in einem Rohre eine kurze Strecke neben dem Ofengase aufsteigt. Sind russische Kamine vorhanden, so muss jede Leitung einen besondern Kamin haben. Damit nun die erwärmte Luft des senkrechten Kanales durch die Fässer ströme, wird derselbe oben mit der nöthigen Zahl von Gelenk-Röhren, wie bei 3, versehen und luftdicht gedeckt. Damit die Fässer in gleicher Höhe zu liegen kommen, wie die Röhren, so wird für dieselben, um den senkrechten Kanal herum, ein entsprechendes Gestell angebracht. Fenster und Thüren des Lokales werden mit Watteschnüren dicht gemacht.

248½ 5. Hat man überschüssige Wasser- oder Dampfkraft zu Gebote, so kann man einen Ventilator in Bewegung setzen und damit die Luft durch die Fässer treiben. Dabei saugt der Ventilator die Luft aus einem Kanale, der mit dem etwas geräumigen Aschenraume eines kleinen Schachtofens in Verbindung steht, welcher mit Koaks oder Holzholen gespeist wird, sobald man warme Luft braucht. Der Aschenraum hat noch eine seitliche mit einem Thürchen versehene Oeffnung, um bie Brennluft, wenn sie zu heiss wäre, mit kalter Luft zu mischen.

II.

Da das Holz ein poröfer Körper ist, so nehmen die Wandungen der Fässer immer einen Theil der eingefüllten Flüssigkeit in sich auf, und lassen dieselbe nach aussen allmälig verdunsten, wenn nämlich die Flüssigkeit verdunstbar ist. Daher kommen die Verluste, welche Wein und Bier, Spiritus, Camphin, etc., beim Lagern und Transportiren erleiden; diese Verluste sind um so grösser, je poröfer das Holz der Fässer, je wärmer die umgebene Luft ist, je öfter dieselbe wechselt, und je leichtflüssiger und flüssiger die Flüssigkeit ist. Nur eine beflndet sich unter den gewöhnlich in

249 Fässern bewahrten Flüssigkeiten, welche in sich selbst ein Gegenmittel gegen den berührten Utbelstand enhält, nämlich der Wein. Dessen Gehalt an Weinstein setzt sich nicht blos als Kruste am Innern des Fasses fest, sondern auch in die Poren des Holzes ab; darum sind ältere Weinfässer dichter als neue.

Die Praxis hat sich meist damit begnügt unter den Hölzern die dichtesten auszuwählen; sie hat also das Eichenholz dem Fichtenholz, das auf trockenem Boden gewachsene Holz dem auf feuchtem und warmen Boden gewachsene vorgezogen, &c. Das Beispiel der Weinfässer zeigt uns den Weg wie wir durch Kunst die hölzernen Gefässe dichter machen, und in Folge dessen auch die weichen Hölzer, wie bisher das Eichenholz, benutzen können. Die Aufgabe besteht nämlich darin im Innern des Gefässes die Holzporen bis zu einer hinreichenden Tiefe mit eihem Stoffe anzufüllen, welcher in der betreffenden Flüssigkeit unlöslich ist. Kann man die Wandung des Gefässes mit einer zusammenhängenden Schicht eines solchen Stoffes überziehen, so ist der Zweck ebenfalls erreicht, am besten aber wohl durch beide Mittel zugleich.

250 Ein solcher in den meisten Fassflüssigkeiten unlöslicher Körper ist kieselsaurer Kalk; man kann ihn jedoch nicht

fertig anwenden, sondern muss ihn aus seinen Bestandtheilen in den Holzporen erst entstehen lassen, indem zuerst Chlorcalciumlösung und hierauf eine Lösung von Wasserglass, das ist kieselsaures Kali, in das Fass bringt und eine Pressung darauf ausübt.

Diese Pressung kann durch den Apparat von Brucherie zum Imprägniren der Hölzer oder einfach dadurch erzielt werden, dass man das Fass mit einer Flüssigkeit ganz anfüllt, und in das Spundloch eine 3–4 Zoll lange oben zu einem Trichter erweiterte Röhre einpasst, und auch diese mit derselben Lösung anfüllt. Das allmälige Sinken derselben in der Röhre zeigt an, wie viel davon in das Holz gedrungen ist. Nach dem Einpressen der zweiten Lösung kann man auf die unter I. angegebene Art austrockenen und allenfals die Operation wiederholen.

Statt des kieselsauren Kalkes kann man kieselsaure Magnesia, entstanden aus der Mutterlauge der Saline oder aus Bittersalz und Wasserglas, ebenso kieselsaures Eisenoxyd aus Chloreisen und
251 Wasserglas, anwenden. Ein passender Stoff ist auch gerbsaurer Leim aus den Lösungen von Leim und Gerbstoff, und bei nicht saurer Flüssigkeit weinsaurer Kalk aus Chlorcalcium und Treberschlempe oder der Abkochung von Weinblättern oder Weinranken.

Für Spiritus und Camphin genügt arabisches Gummi oder Stärkegummi; dasselbe muss jedoch vorher gepulvert und mit Spiritus gewaschen werden; dann löst man es in 2 Theilen Wasser auf und presst die Lösung in das Fass; hierauf trocknet man, schwenkt das Fass mit einer dicken Gummilösung aus (1 Theil Gummi auf 1 Theil Wasser), und trocknet wieder aus.

Nachfolgend sind die gewöhnlichen Fassflüssigkeiten mit den dazu passenden Dichtungsmitteln aufgezählt:

Wein: Kieselsaurer Kalk oder Magnesia, gerbsaurer Leim, weinsaurer Kalk.

Bier: Kieselsaurer Kalk, Magnesia oder Eisenoxyd, gerbsaurer Leim; 3 Theile von mit Zinkoxyd bereitetem Firniss mit 1 Theil Kalophonium geschmolzen, und $\frac{1}{8}$ Theil Zinkoxyd, gut zusammengerührt, und noch heiss in das Fass gegossen, geschwenkt und abgegossen; hierauf gut getrocknet.

Branntwein: So wie Bier.

Spiritus: Kieselsaurer Kalk, Magnesia oder Eisenoxyd,
252 gerbsaurer Leim; hirauf Gummi—Gummi allein.

Terpenthinöl, Camphin, &c.: So wie Spiritus.

Oele: So wie Spiritus.

Syrup und Honig: Wie Wein und Bier.

Essig: So wie Bier.

Milch: Kieselsaurer Kalk, Magnesia oder Eisenoxyd, gerbsaurer Leim.

Schliesslich muss noch hervorgehoben werden dass bei der Aufbewahrung in Räumen von wechselnder Temperatur oder gar beim Transporte das Schwinden der Fassoberfläche gefährlich werden kann, wenn das Fass nicht von dichtem Holze ist. Ist das Eichenholz auf feuchtem, warmem Boden gewachsen, oder hat man gar Fässer aus weichem Holze, so muss deren Aussenseite entweder mit

Firniss angestrichen werden, oder man nimmt seine Zuflucht zu Glycerin oder Chlorcalcium, mit dessen Lösung man die Fässer benetzt.

253 *Anmerkung des Herausgebers.*

Wir haben den Artikel vollständig hergesetzt. Die meisten Brauer werden sagen: „Was kann uns, die wir ja unsere Fässer mit einem Pechüberzug versehen und dadurch dicht machen, *was kann uns* eine solche künstliche Zubereitung des Fassholzes nützen?“ Indessen darf nicht vergessen werden, dass man in manchen Gegenden den Pechgeschmack durchaus nicht liebt, und dass namentlich manche wenig gehopften, lieblichen Biere auf ungepichte Fässer gelegt werden müssen, um ihren feinen Geschmack zu behaupten. Für diesen Zweck sind nun die vorstehenden Präparationen ganz zweckmässig. Das beste von uns erfundene und bereits von Jahren (in Bezug auf die Weissbierfabrikation) erprobte Holzverdichtungsmittel befindet sich indessen nicht darunter, und wir behandeln es deshalb, nach wie vor, als ein Geheimniss, welches wir den Interessenten gegen das gerinfügige Honorar von 50 Thalern und das Versprechen der Geheimhaltung mittheilen.

254 It is admitted by counsel for complainant that if called as a witness George Klotter, Sr., of Cincinnati, Ohio, would testify as follows:

That he was engaged in the brewing business and part owner of a brewery in Cincinnati, Ohio, from eighteen hundred and forty-nine to eighteen hundred and sixty; that for several years prior to eighteen hundred and sixty he had in general public use in his brewery in said Cincinnati and saw frequently in other breweries in the neighborhood a pitching machine the same in construction as “Defendants' Exhibit Seibel Pitching Machine,” which said machine had a hose attached to the pipe entering near the bottom and a blacksmith's bellows applied to the other end of the hose, and was used to pitch beer casks as follows, viz:

Burning coke or charcoal was placed in this pan or furnace, which was then inserted through the man-hole into the cask to be pitched, and a blast of cool air pumped by the bellows through the perforated pipe in the bottom, passing thence through the burning fuel out into the cask, melting the pitch and heating the cask; and that he has frequently seen beer casks pitched in this way by that machine in said Cincinnati from the above date down to the present time.

And it is agreed by counsel for complainant that the above testimony shall be used in evidence with like effect as if said George Klotter, Sr., had duly testified to the same under oath as a witness for defendants in this cause.

CHRISTIAN MOERLEIN, of lawful age, being first duly sworn, as hereinafter certified, deposes as follows:

Q. 1. Are you the person of the same name who has testified in these causes before as a witness for the complainants?

A. Yes, sir.

Q. 2. How long have you been engaged in the brewing business in Cincinnati, and how does your brewery compare in size to the larger ones in this vicinity?

A. I am engaged in the brewery since 1854; that time it was a middling sized brewery; about 1876 and since it has been the largest in Cincinnati.

Q. 3. What opportunity, if any, have you had of becoming familiar with the brewing business generally as being carried on in this vicinity and elsewhere throughout the country?

A. I have been to every brewers' national convention since 1863 as a delegate and officer. I have been and am on several standing committees of the brewers, and have been on some of the committees of the Brewers' Association here.

Q. 4. About when did the brewers in and about Cincinnati begin to ship their beer extensively in kegs, and where had their beer been principally consumed prior to that time?

A. There was hardly no lager beer shipped before 1872 or 1873, because we hadn't enough of lager beer; were small concerns then. Their beer had been principally consumed in Cincinnati prior to that time.

Q. 5. Prior to that time had there or had there not been any occasion for pitching kegs in large numbers?

A. We hadn't a large number of kegs prior to that time and only pitched them once a year,

Q. 6. How were they usually pitched?

A. We took the heading out and pitched by hand.

Q. 7. By whom would this be done?

A. By the hands.

255 Q. 8. Did it require the employment of any additional hands?

A. No, sir.

Q. 9. Who made and introduced the first pitching machines used here in Cincinnati which forced a blast of air through the furnace and thence into the keg or cask, so far as you know?

A. The first machine was the pitching pan for casks; the first pan came from St. Louis; after that they were made here; I don't know exactly who made the first. The next I saw was the Vogt machine, made at Louisville. I saw the pitching pan about 1864 or 1865 and the Vogt machine about 1870 or 1872; the pitching pan has been generally used since; about the use of the Vogt machine I do not know.

Q. 10. Do any of the breweries, so far as you know, pitch the kegs by hand to this day?

A. Yes, sir.

Q. 11. What is the method of pitching commonly used by the small brewers?

A. In the old way, by taking the heading out and pitching by hand.

Q. 12. How do you at present pitch your large casks and what has been your usual method of pitching large casks?

A. We pitched the large casks till last January with the pan; since that we have another machine.

Q. 13. How does the pan you have referred to compare with "Defendant's Exhibit Seibel Pitching Machine?"

A. It is the same thing.

Q. 14. Do you know whether or not this pitching pan is commonly used by other brewers for their large casks?

A. Yes, sir; most every brewer in Cincinnati pitch their large casks with that pan.

Q. 15. Why do you use this pitching pan for pitching large casks instead of the Stromberg or Gottfried machine referred to in your former deposition?

A. Because it makes a better job.

Q. 16. About how long does it take to pitch a large cask, say, of about thirty or thirty-five barrels with this pitching pan in the ordinary course of business?

A. From ten to fifteen minutes.

Q. 17. State whether or not you ever have any trouble from the setting fire of the cask when using this pitching pan.

A. If the cask be dry we have no trouble; if not, we have an explosion. It is the same with all machines, except the one we use now. We can put water in the cask with it when we pitch and there will be no explosion.

Q. 18. Is there any difference in respect to liability to explosion between the pitching pan and the Stromberg and Holbeck & Gottfried machines which you use?

A. There is no difference. We had an explosion with my Holbeck or Stromberg machine; I don't know which.

Q. 19. Is it, in your opinion, desirable or objectionable to ignite the pitch when pitching?

A. It is best to set it on fire.

Q. 20. In your former deposition you spoke of using a flat piece of iron at the man-hole of the cask having a hole in it through which the pipe entered; with which of your machines did you use this plate of iron.

256 A. We used that piece of iron with the Stromberg and Gottfried machines.

Q. 21. What is the cost of simply the stove or furnace for the Holbeck & Gottfried and the Stromberg machine?

A. I think I paid about one hundred and fifty dollars for it.

Q. 22. About what does the fan and hose cost?

A. Might cost about one hundred and fifty—some get them for one hundred and some for forty dollars—the cost depending on the size of the frame; the above represents the cost of the fan; the cost of hose depends on its length.

Cross-examination by Mr. BANNING:

X Q. 23. Do you mean to be understood as saying in your direct examination that you never used anything but the pitching pan to pitch your large casks before last January?

A. Yes; the large casks—about thirty-five barrels; sometimes we pitched smaller casks with the other machine.

X Q. 24. Why do you think it a benefit to set the cask on fire?

A. Of course it is.

X Q. 25. Why is it a benefit?

A. It is better to set it on fire, of course.

X Q. 26. In what way is it better?

A. If the pitch isn't good the fire will take the bad smell out of it; if the beer tastes bad it is because the pitch has not been set on fire.

X Q. 27. Did you ever notice to see whether the hot blast of the pitching machine would not remove the bad smell which you mention?

A. I don't know that.

X Q. 28. Did you ever try to find out?

A. No; I did not.

X Q. 29. About how often do you have to pitch your kegs since you commenced to ship beer?

A. If the keg hasn't a good taste after coming back it has to be pitched over.

X Q. 30. Does it generally have to be pitched over when it comes back?

A. Some we have to pitch over every time after they come back; others not.

X Q. 31. Who has had charge of your pitching during the last few years?

A. My foreman, Wilhelm Guest, who has been with me a year and three or four months.

X Q. 32. Who had charge before that?

A. Louis Maehle, who was with me five or six years.

Redirect examination by Mr. PARKINSON:

R. D. Q. 33. What kind of a machine was that you commenced using last January?

A. The cask is set on an end; two pipes are inserted through the man-hole, one reaching almost to the bottom; the pitch in the cask is set on fire; the long pipe reaching nearly to the bottom of the cask serves as an inlet for the cold air, while the short pipe serves as a chimney or draft; the pitch burns with great intensity and heats the cask in from four to eight minutes; this mode is covered by a German patent.

257 R. D. Q. 34. How does this mode last described compare in thoroughness and rapidity with any other method that you have seen used, including the Holbeck & Gottfried and Stromberg machines?

A. The last machine is the best for casks. It saves coke, blower

and steam. It can't be used for pitching kegs. It pitches twice as fast as any other machine, and pitches better than any other and more evenly.

CHRISTIAN MOERLEIN.

CHARLES RHEINBOLDT, of lawful age, being duly sworn, as hereinafter certified, deposes as follows:

Q. 1. State your name, age, residence, and occupation.

A. Charles Rheinboldt; age, thirty-three; residence, Cincinnati, and occupation, book-keeper and correspondent in the John Kauffman Vine Street Brewery.

Q. 2. Please state what opportunities you have had of becoming familiar with the German and English languages and whether or not you understand both of said languages.

A. I have commenced learning the English language when I was twelve years of age in an institution in Bavaria, and improved the same in Paris by corresponding in English, and afterwards spent two years in London as clerk in a commission house. For the last six years I am residing in Cincinnati, and during this time I have always done English correspondence. Now, as to the German, I have been educated in that language, which is my native tongue. I understand both of said languages.

Q. 3. What opportunities, if any, have you had of becoming familiar with the terms used in connection with the brewing business in each language?

A. I have been in connection with the brewing business in Germany already as early as the age of fifteen, and for the last four years I am employed in the Vine Street Brewery of this city. I have daily opportunities to become acquainted with the German and English terms used in the brewing business and all its branches.

Q. 4. Please examine Defendant's Exhibit "Extract from Handbuch fur Bier-Brauer, 1854," and Defendant's Exhibit "Extract from der Bier-Brauer, 1861," and state whether you understand the same and whether you have made a translation in the English language therefrom.

A. I have examined the exhibits and understand the same and have made a translation of the same from the German into the English, the first being complete, the second extending to the Roman numerals II, on the eighth page of the extract.

Q. 5. Please produce said translation; state whether or not they are in your handwriting and whether or not you have compared them with the above-named exhibits since making them and found them to be correct.

A. I produce them. They are in my handwriting. I have compared them with said exhibits since making them and found them to be correct.

The translations above referred to are here offered in evidence and marked, respectively, Defendant's Exhibit "Translation from Handbuch fur Bier-Brauer, 1854," and Defendant's Exhibit "Translation from der Bier-Brauer, 1861."

258 DEFENDANT'S EXHIBIT "TRANSLATION FROM HANDBUCH FUR BIER-BRAUER, 1854."

Extract from "Muller's Handbuch fur Bier-Brauer," Braunschweig, 1854, from page 116 to 118, inclusive.

Another method frequently employed in this country offering many advantages to the other mode of procedure, provided it is done in a knowing manner, is the pitching of casks with the machine.

Only casks can be pitched in this manner, provided their headings are supplied with a small door, through which the machine is passed into the cask.

This machine, constructed of cast or strong sheet iron, being very simple and resembling a square pan, is 1½ to 2 feet long, 5 to
259 6 inches wide, 7 to 8 inches high (Badisch measure), or of such size to be easily put in and taken out through the small door above mentioned.

It rests on four small feet one inch long, has a hole of the size of a large tap hole in one of its small fronts, and a handle at each end. An ordinary "Ohm" cask is also needed for the purpose, resting on a wooden support and fastened with substantial iron hoops, with a tap hole in the centre of its heading, and a tin pipe or tube 2 inches in length will be adjusted and firmly nailed to it; also another pipe 3 to 4 feet long, 1½ inches wide, tapering to a point; its shank or wider part is of tin, the remainder or tapering part of sheet iron, its joints to be securely grooved and rivited; and, finally, a good foot bellows.

In the following manner casks are pitched:

The pitch kettle containing the requisite quantity of pitch is placed above a fire, the pitch being well melted; the desired amount is dipped through the opened door into the well-dried, unpitched or new cask, the door is then closed and shut tight with its cross-beam and screw.

As in the other method so here in this case the cask is turned topsy-turvy and rolled from one side to the other, and then the bung and taps removed in order to let the pitch clinging to the inner wall of the cask cool off.

This, the preliminary work being done, the cask is placed on two low wooden layers, and in order to have it in a firm and level position two three-cornered wooden wedges are shoved against it from either side, the bung-hole is opened and the door again removed.

This done a shovel full of burning coal is placed in the iron pan which is to be filled to the top with charcoal and then put through the opening of the door inside of the cask, and the opening is closed by inserting the door and screwing it tight.

The thinner end of the sheet-iron pipe is pushed through the open tap hole of the little door, and also through the hole of the machine, which lies in the same plane and direction as the first. The other end of the pipe, however, is clipped over and secured to the tin pipe nailed to the head of the "Ohm" cask (which pipe

must be slightly less in diameter than the first), after such a fashion that by moving the small cask towards the large one until a space of 2 to 3 feet is yet left between them and wrapping the two pipes with linen or oakum an air-tight joint is made.

The foot bellows are then placed in the tap hole of the smaller cask so as to make good connectien and by a constant manipulation of the same a continual air blast passes from the small cask through the pipe and from there to the machine, which causes the pan to be gradually set in glow. The pitch on the inside of the cask will be reduced to a liquid, on account of the heat streaming out from the coal, and with each blast from the bellows smoke smelling of pitch will pour out of the bung-hole, and after the elapse of half an hour the entire cask is so heated up, especially in the lower region, that after fastening the bung the other work can be proceeded with.

In the mean time another quantity of pitch has been placed in the kettle and heated again, and the small door of the cask being opened and the machine in which the coals have been reduced to a small glowing fire, is removed from the cask, a few dippers full of hot pitch is poured into the cask, the door inserted, closed, and its bung well driven in.

As mentioned before the cask is treated in a similar way by
260 turning the same top foremost and on its sides in all directions in order to allow the flowing pitch to spread over its walls; the bung is then knocked out, which flies high in the air and afterwards is driven in again.

In order to remove the superfluous pitch the cask is laid with the bung-hole down, so that it can flow out, and then again, as directed, it will be rolled back and forward until the pitch in the cask is cooled off.

According to this method of pitching the pitch contained in the cask is not set on fire, and in this case a danger of fire is not to be feared; in addition the cask will not suffer in the least, which often occurs in the other manner of pitching, which necessitates the removing of the heading of the cask and burning out of the same.

The foregoing procedure, therefore, is of great preference, and, besides, since by the use of an aromatic pitch the pleasing taste of the beer will be retained, which is lost if the cask is burnt out.

One should be induced to believe that on account of these evident advantages which the pitching by machine renders the other method would have long been abandoned, which, however, is not the case, inasmuch as pitching with the machine requires much greater attention and carefulness, for if the proper moment is not taken the heated pitch loses its fluidity and is unequally spread, and obtains uneven and varying thickness in the inner walls of the cask, causing the pitch easily to scale off and creating bare spots, which is neither beneficial nor agreeable to the beer.

261 DEFENDANT'S EXHIBIT "TRANSLATION FROM DER BIER-BRAUER, 1861.

About the drying and rendering impervious of casks Prof. Pless furnishes a very instructive essay in his papers, entitled The Newest Discoveries, and accompanies the same with the following remarks:

I.

The demand of casks for vessels for the different fluids has reached to such an extent as to render oak forests in some countries gradually to diminish, the consequence of which the price of the casks will be higher from time to time; it is, therefore, necessary to think of the preservation of oaken casks and to prepare means to construct casks of soft woods answering the same purpose.

With reference to the first point much has already been gained if we succeed by rapid drying of casks which, for the purpose of cleaning them or testing their imperviousness, have been exposed to wet, in preventing them from becoming foul or rotten.

If it is desirable to dry casks or other vessels with narrow openings rapidly it is necessary that they should drip out and then be well aired; the drier and warmer the air is the more rapidly it is carried through the casks, the quicker will the drying be effected. It is necessary, therefore, to have a source of heat and a certain power to blow the heated air through the vessel.

It is of course not to be understood that by dry air such is meant as contains absolutely no moisture, but merely such as for its temperature is not yet saturated with moisture, and therefore is still capable of taking up watery vapor; for instance, that out of the cask.

In this case air at 15° R. temperature can be regarded as dry air, notwithstanding it is quite moist, viz., charged with 12.8 gr. of watery vapor to the cub. mtr. after having it heated to 30°, because then 15.7 gr. can be received in addition, making altogether 28.5 gr. vapor in order to saturate it.

Besides that the heat causes the air to become dried, it can be used also in various modes as the moving power to force dry air through the casks.

We need thus for our purpose dry air and a motive power, and generally a source of heat to dry the air and to move the same.

In practice these conditions can be variously combined and employed, and we will enumerate a few instances:

1. In the warm season of the year, with dry and moving air, vessels with two openings dry pretty rapidly if they are placed in the open air in such a manner that the large opening will face the wind current, the bung-hole to be on the top of the vessel. It is far better, however, that the vessels are placed in such a position that their lengths form an acute angle to the direction of the wind and that the small bung-hole is on the lee side.

The other vessels will be so arranged that the entire row stands perpendicular with the direction of the wind; each succeeding vessel, however, will be so placed that their large openings will remain uncovered. It is very easy to place two rows on top of each other.

2. Vessels with one opening can be dried in the air if the opening is placed upward and if they are supplied with sheet-iron pipes, so placed in the opening that $\frac{3}{5}$ of their length penetrate the vessel and the other $\frac{2}{5}$ extend outward. The circumference of the
262 pipe is $\frac{1}{6}$ smaller than that of the opening of the vessel; the length of the pipe is as deep as the vessel itself.

The two ends of a thick wire slung around the pipe which forms the axle by which it rests upon the vessel.

The sun, warming the black sheet-iron pipe, the air contained therein ascends and takes the moist air with it, while from the outside dry air passes through the opening.

3. In the cold season of the year the arefying of the vessels ought to take place with the aid of a source of heat and in a closed apartment. This apartment must be provided with a chimney whose capacity corresponds with the number of vessels to be dried at a time.

In the chimney, about four or five feet from the bottom, an extension of wood or masonry will be adjusted, in whose wall as many tin pipes will be placed to accommodate to dry a corresponding number of vessels.

These pipes project 4 to 5 inches from the ante-chamber and are supplied with rubber or varnished leather pipes, which are fastened to other tin pipes, air-tight, which are to be sunk in the vessel to be dried.

The vessels are placed around the chamber, which necessitates that it reaches somewhat into the premises; the warmer air of the premises penetrates into the vessels, where it takes up the water and passes through the pipes into the chimney which causes a draft. The premises, of course, must be heated which, in order to be economical, is done by erecting a small shaft furnace 1 to $1\frac{1}{2}$ feet wide and 2 to $2\frac{1}{2}$ feet high, from bricks supplied with grate bars and a channel to supply outside air; coke or charcoal or dried wood are used to start fire on the grate.

In using cut wood, stone coal or turf, a smoky air would be produced and communicated to the vessels, which would damage the taste of the fluids with which said casks are to be filled; therefore these fuels demand an iron stove whose pipe empties into the same chimney into which the pipes of the vessels are let.

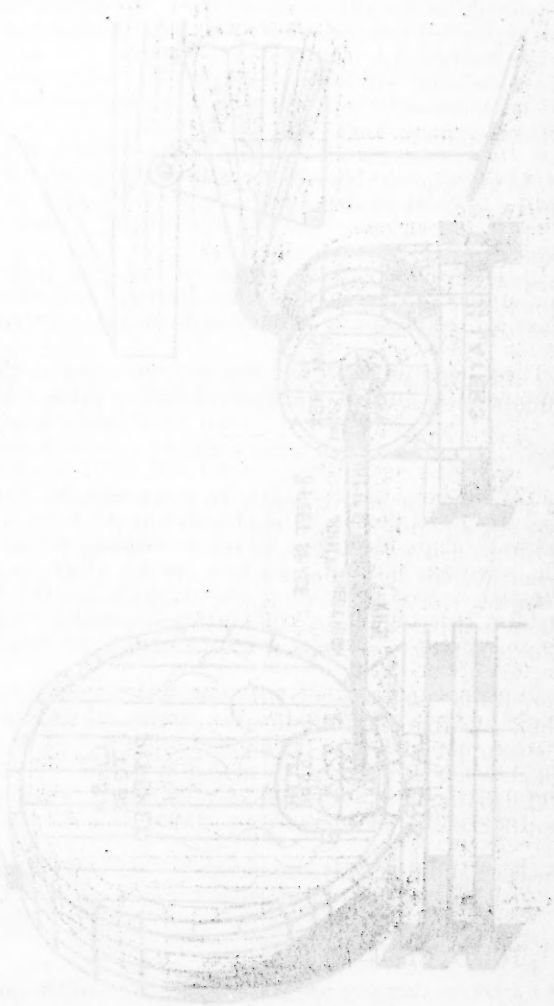
The stove is heated from the outside and is supplied with a high cylinder fed with external air.

The premises should not be larger than necessary for the manipulation of the work.

The doors and windows are caulked with cotton strings which are tightly pasted in the grooves.

4. If it is desired to dry with more heat or with more rapidity it is necessary that the warm air obtained from the stove *is* passed immediately through the vessels; hereby the following method is recommended:

In the midst of a level space about three feet of earth is dug out in which an economical furnace is placed, its hearth to be sunk likewise in the ground and covered with plates reaching to the wall. Here a smoke-pipe is fastened and let with very little elevation to a



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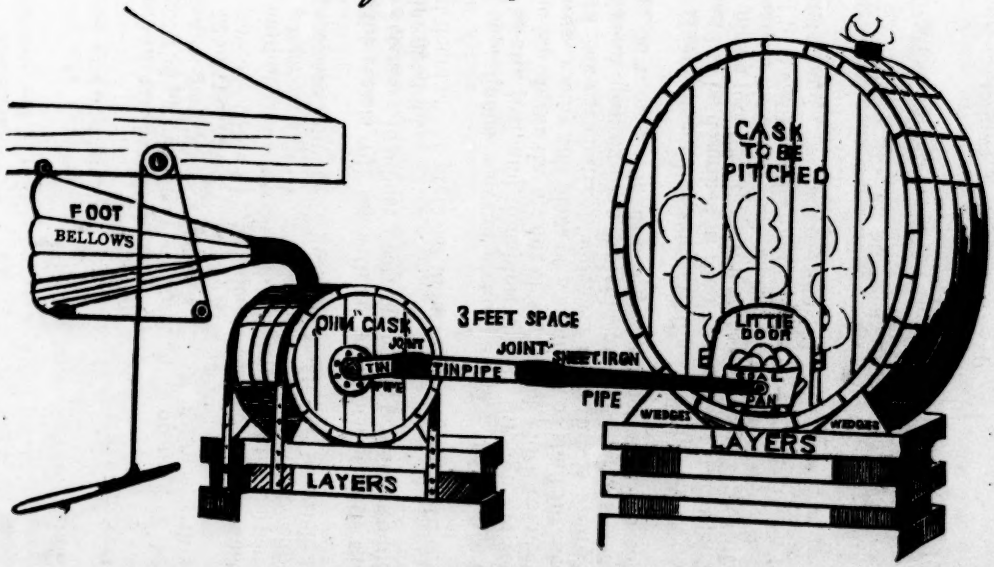
Defendant's Exhibit "Rheinboldt Sketch."



chimney standing only a few feet distant. The air to be heated is brought from the outside and communicated into a horizontal channel of masonry which first surrounds the smoke-pipe and then extends over the plates of the hearth to the stove, but here in the center of the premises ascends to the height of 4 to 5 feet perpendicularly. After heating the stove the air in the entire channel is being warmed, but more so next to the stove beneath the perpendicular part of the channel; here it will obtain also the highest rising pressure, streaming with a certain rapidity into the premises, while from the outside cold air follows and meets the warmths.

263 The ascending pressure of the heated air is supplemented by the draft of the stove and that of the chimney.

The moist air of the premises is let off through an opening of the chimney in such a manner that it ascends a short distance within the pipe next to the gas current by the stove.

In case there are Russian chimneys available each conductor must have a separate chimney, in order that the heated air of the perpendicular channel passes through the vessels; the channel will be supplied with the necessary number of pipes, as mentioned in article 3, and covered up air-tight.

In order that the vessels will lay with an equal height with the pipes, it will be necessary to adjust a corresponding pedestal around the perpendicular channel.

Windows and doors of the premises to be tightened up with cotton strings.

5. In case of superfluous water or steam powers, a fan, being at command, can be attached, and thus blow the air through the vessels; hereby the fan draws the air out of a channel which connects with the somewhat roomy ash place of a small pit or shaft furnace, which is fed with coke or charcoal whenever warm air is desired; the ash place has an opening from the side, provided with a small door to mix the burning air, in case it gets too hot, with the cold air.

264 Q. 6. Have you made a sketch of the apparatus which you understand to be described in the first of these extracts; and, if so, will you please produce it, stating what each part represents?

A. I have made a sketch of said apparatus, which I understand to be described in Defendants' Exhibit "Extract from Handbuch fur Bier-Brauer, 1854," and I produce the same, and I have described or named each part on the sketch itself.

The sketch referred to is here offered in evidence and marked "Defendants' Exhibit Rheinboldt Sketch," and is as follows:

Cross-examination waived.

CHAS. RHEINBOLDT.

(Here follows diagram marked p. 264.)

265 GEORGE H. KNIGHT, of lawful age, being duly sworn, as hereinafter certified, deposes as follows:

Q. 1. State your name, age, residence, and occupation; what experience, if any, you have had in examining and comparing different

mechanical devices for the purpose of ascertaining their similarity or difference in construction and mode of operation, and what opportunities, if any, you have had of becoming familiar with the mechanical arts in their various applications.

A. My name is George H. Knight. For the past thirty-seven years my principal business office has been in Cincinnati, Ohio, and for many years past in daily correspondence with a business associate in Washington, D. C. My present residence is in Kentucky. My principal occupation during the years mentioned has been that of preparing and prosecuting before the United States and other patent offices applications for letters patent for inventions. I have, however, during the time mentioned and previously been frequently engaged in advising and assisting in the preparation of drawings and specifications of mechanical devices for the purpose of constructing the same, and have devised such myself and procured patents therefor. I have also, during the years mentioned, been frequently called upon by parties to litigation and by courts to compare and explain mechanical devices and their relations to specifications of letters patent in controversy; as, for example, in the following cases, in most of which my name (in the capacity mentioned) appears in the printed reports: Moffit *v.* Garr (threshing machines), p. 610, Fish. Pat. Cas.; Morris *v.* Barrett (wood bending), p. 258, vol. 1, Bond, and p. 464, 1 Fish.; Hays *v.* Sulsor (mole plows), pp. 284, 285, 1 Bond; Judson *v.* Moore (governor valves), p. 290, 1 Bond, and pp. 547 and 556, 1 Fish.; Dodge *v.* Card (fireplaces), p. 396, 1 Bond, and p. 118, 2 Fish.; Morris *v.* Roger (wood bending), p. 77, 2 Bond; Blanchard *v.* Putnam (wood bending), p. 94, 2 Bond; Swift *v.* Whisen (bran duster), p. 129, 2 Bond; Harris *v.* Cotton Tie Co., Louisiana Circuit, 1877; Lewis *v.* Swift (railroad rolls), U. S. 6th Circuit, 1879; Hall *v.* MacNeale (bank safes); Sargent *v.* Hall (time locks), Ballard, J., 1878; Sargent & Yale Co. *v.* Hall (time locks), 1879. I have, however, been engaged in such capacity in many like controversies. My avocations, as above, have familiarized me with devices in a great variety of branches of mechanical industry. In the subject of casks I have a somewhat special familiarity, from the fact of my father having been at one time a considerable importer of wines in the cask and largely engaged in the manufacture and exportation of casks of every variety and size and, further, for some years entrusted with the sole control by the British government of all casks made in bond for exportation.

Q. 2. Please examine letters patent of the United States No. 42580, to Holbeck & Gottfried, for mode of pitching barrels, dated May 3d, 1864, and state whether or not you understand what is therein described and claimed. Please also examine the following defendant's exhibits, respectively, to wit, Cochrane & Slate, English patent, January 3d, 1850; Davison & Symington, English patent, November 2d, 1843; C. P. Devaux, English patent, October 8th, 1835; J. B. Neilson, English patent, September 11th, 1828; G. H. Bovill, English patent, January 31st, 1846; Cochrane & Galloway, English patent, May 4th, 1818; Bellford, English patent, January
266 12th, 1854; John James Russell, English patent, February 16th, 1859; I. L. Bell, English specification, January 24th,

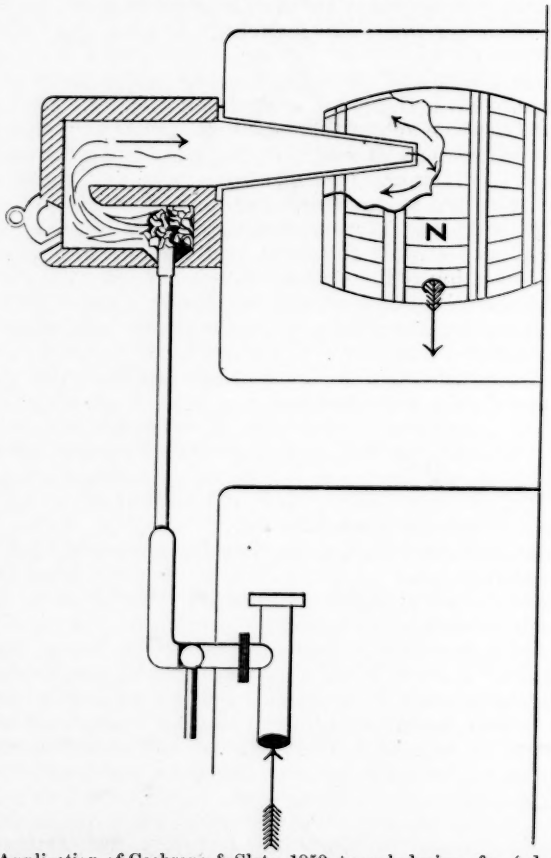
1860; John J. Russell, English patent, January 8th, 1857; extract from Tomlinson's Cyclopedia of Useful Arts, 1854; extract from Handbuch fur Bier-Brauer, 1854; extract from Der Bier-Brauer, 1861; Seibel pitching machine, assuming that this last-named exhibit was used as described in depositions of Seibel, Schlosstein, Lemp, Baker, Kunz, Steifel, Lampel, Anthony, and Klotter, hitherto taken in these causes now shown you; also Blettner sketch blast furnace No. 1 and No. 2, assuming the same to represent devices used as described in deposition of Blettner, heretofore taken in this cause, and state whether or not you find in said exhibits or any of them the subject-matter described and claimed in said Gottfried patent, and whether or not, in view of the state of the art as exhibited in said exhibits, you find any patentable invention original in said Gottfried patent, giving your reasons in full for any opinion you may express.

A. On examination of said patent to Holbeck & Gottfried I think I understand what is therein described and claimed. As I read the Holbeck & Gottfried patent three distinct subjects of invention are claimed to be included in the grant, the same being defined in first, second, and third claims thereof, respectively. Of these claims I understand the first to be a process or mode of operation in which a blast of heated air is introduced to the interior of casks by means substantially as described and for the purposes set forth in the body of their specification. The purpose is stated to be "the preparation of casks for receiving pitch or other melted substance" in order "to render the casks impervious to air." The succeeding claims, namely, the second and third, appear to relate — (claim two, to the use; claim three, to the construction of) mechanical details of the apparatus, which is specifically described and represented; claim two being to "the use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described;" claim three being to "the tube-holding plate I, in combination with the removable pipe E and blast furnace A, substantially as and for the purposes described."

Of the devices cited in the question I find that of Cochrane and Slate to be a device for drying molds of cast-iron pipe, the device appearing to be an application of the ancient and familiar expedient of an air blast created by the forcible propulsion of a jet of air from a nozzle or tuyere into or through a mass of burning embers, the thus heated air current being thus conducted by a suitable tube or spout into the interior of the mold. I recognize in it a fair illustration of a numerous and well-known class of mechanical expedients for directing a stream of hot air against any particular object for any purpose, as, for example, the fusion or partial fusion of the object or the dispersion of its moisture. I recognize in the Cochrane and Slate device an illustration of so much of the apparatus described and claimed by Holbeck & Gottfried and of their alleged new and useful process as comprises an "application of heated air under blast to the interior of" the particular object to be acted upon, in so much that were a cask substituted for the pipe mold the description and first claim, at least, of the Holbeck & Gottfried would

be applicable to Cochrane and Slate's mode and means of applying heated air. Furthermore, the idea or conception of a removable pipe section or conductor is conveyed in Cochrane and Slate's drawings (marked *c*) and referred to in language on fourth line of
267 second page of text, as follows: "The blast pipe is then inserted." To illustrate my understanding of the applicability of the Cochrane and Slate device to the drying and heating of the interior of casks I have now made a rule sketch of said device thus applied, which I now present, marked "G. H. K., Application of Cochrane and Slate, 1850, to Cask Drying, &c." (adapted from figure 9), as follows:

Cochrane & Slate, 1850.



G. H. K. Application of Cochrane & Slate, 1850, to cask drying, &c. (adapted from Fig. 9).

The device of Davison and Symington of 1843, to which my attention has been called, I find to be as stated in its title, "a method

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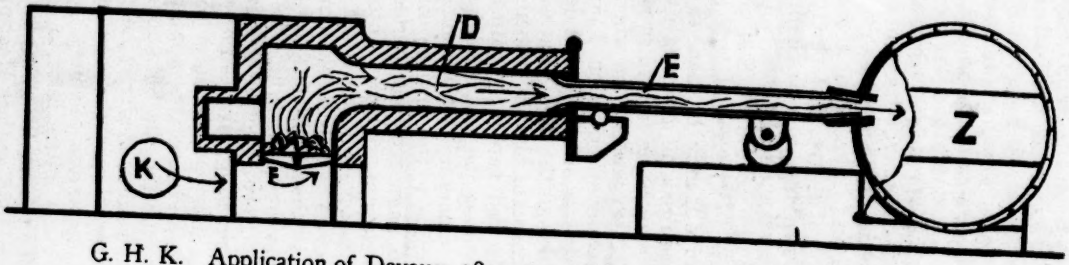
DEVAUX 1835.



G. H. K. Application of Devaux, 1835, to cask heating &c., (adapted from Fig. 1).

of cleansing, purifying and sweetening casks, vats, and other vessels." To effect these purposes said inventors propose to expose the interiors of the casks to "the action of the rapid currents of hot air." Their means comprise essentially a furnace through which a pipe conveying an air blast "from a fan blower" is conducted, said pipe having on that portion of it which leads from the furnace a series of nozzles, E, which are made to occupy the bung-holes of the casks to be treated, as shown clearly in Figs. 1 and 2 in the Davison and Symington drawing. The drawing and description of the Davison and Symington device are complete and explicit, even to the representation of removable conductors (the nozzle E). The device of Davison and Symington appears to me to come clearly within the language of complainant's first and second claims.

The device of Devaux, 1835, I find to comprise provisions for a blast of air, which is driven forcibly into the ash pit and through a fire for the propulsion of a current of partly decomposed heated air and products of combustion through a conductor, E, into a smelting furnace. The said conductor is shown to be removable, in this respect agreeing with the conductor E of complainant's patent, as clearly appears by the drawing and by the following description: "The pipe E may be made to move backward or forward when required by means of a wheel or collar, as shown in the drawing, the ends being formed so as to fit close by the ends of the pipe in which they are inserted when at work."

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In reading the Devaux specification I note that he claims useful novelty in and lays stress on the partial decomposition of the blast air by its passage through the fire; thus, second line from foot, page 3, he speaks of "a constant blast of heated and partly decomposed atmospheric air, gas, and vapors;" again, on page 4, line eighteen, "D E are pipes to convey the heated and partly decomposed atmospheric air, gas, and vapors from the fireplace or furnace * * * through the *tewyer* pipe to the furnace containing the iron, stone, or iron ore;" again, page six, line fourteen, "these partly decomposed air, gas, and vapors are forced into the smelting furnace;" again, page eight, line seven, he reiterates the fact and advantage, claiming that his device is capable of doing what the earlier one of Neilson did not do, in that Neilson's "did not pass the atmospheric air into and amongst the burning fuel," as they do in his.

The said device of Devaux constitutes, in my judgment, except in its application to a smelting furnace rather than a cask, a manifest embodiment of the first two claims of complainant's patent. To illustrate my understanding of the applicability of the Devaux device to bring heated air and the blast in contact with the interior of the cask by means substantially as described and for the purposes set forth in complainant's patent, I have now made and presented a rude sketch of the apparatus, as shown in Fig. 1 of Devaux's drawing, in which the same letters refer to corresponding parts, a cask being substituted for the smelting furnace, marked "G. H. K., Application of Devaux, 1835, to Cask Heating, &c." (adapted from Fig. 1), as follows:

(Here follows diagram marked p. 268.)

269 I find the patent to Neilson of 1828 to describe a hot blast apparatus for forges, etc., in which the air is, before entering the forge fire, heated by passing the conducting pipe through "a fire distinct from the fire to be affected by the blast or current of air." No drawing accompanies this patent, but the description, according to my understanding, makes known an apparatus which, were a cask substituted for a forge fire, *it* would come within the language of the complainant's first claim.

The patent to Bovill, 1846, to which my attention has been called, relates to devices for "improvement in the manufacture of iron." This device describes, among other things, a hot blast apparatus so arranged, as shown in figure two of his drawing, and described, as shown on line three, page eight, of the copy of the specification, as "that part of the air may pass through the fire and part over the fire," under control of the attendant, the "fire" referred to being a supplemental fire, separate and apart from the furnace proper. To illustrate my understanding of the applicability of the Bovill device to bring heated air and the blast in contact with the interior of the cask by means substantially as described and for the purposes set forth in complainant's patent, I have now made and present a rude sketch of the apparatus, as shown in Fig. 2, sheet 3, of Bovill's drawing, in which the same letters refer to corresponding parts, casks being substituted for the smelting furnace. This sketch I have marked "G. H. K., Application of Bovill, 1846, to Cask Heating, &c." (adapted from Fig. 2, sheet 3), as follows:

(Here follows diagram marked p. 269.)

The device of Cochrane & Galloway, A. D. 1818, to which my attention is directed, I find to be entitled "a machine for removing the inconvenience of smoke or gases generated in stoves, furnaces, or fireplaces by the ignition or combustion of coals or other inflammable substances and, in some cases, for directing the heat and applying such smoke or gases to various useful purposes." The specification and drawings describe and show an air-tight stove, which receives a forced draft of air in such a position as to strike the flame in near vicinity to or a little above the glowing embers. This draft air, the inventors state (page five, line nineteen, of the copy of their specification), may be "introduced under or upon the ignited fuel." These draft inlets are indicated at B B in my rough copy. I have now made and present an illustration of my understanding of the applicability of the Cochrane and Galloway device to the
270 purification, etc., of the interior surfaces of casks by a rude sketch from Fig. 1 of their drawing, in which the same letters represent corresponding parts and in which a cask, Z, is substituted for the water column D D of their patent. I have, for identification, marked this sketch "G. H. K., Application of Cochrane and Galloway, 1818, to Cask Heating, &c." (adapted from Fig. 1 of their drawing), and it is as follows:

(Here follows diagram marked p. 270.)

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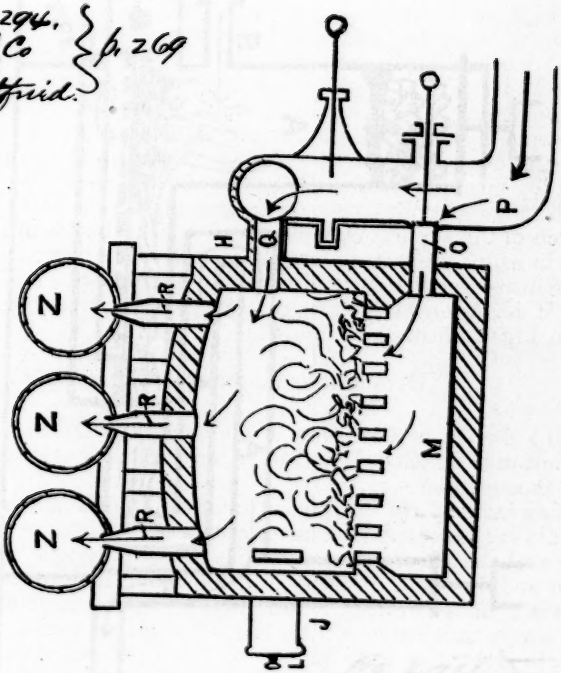

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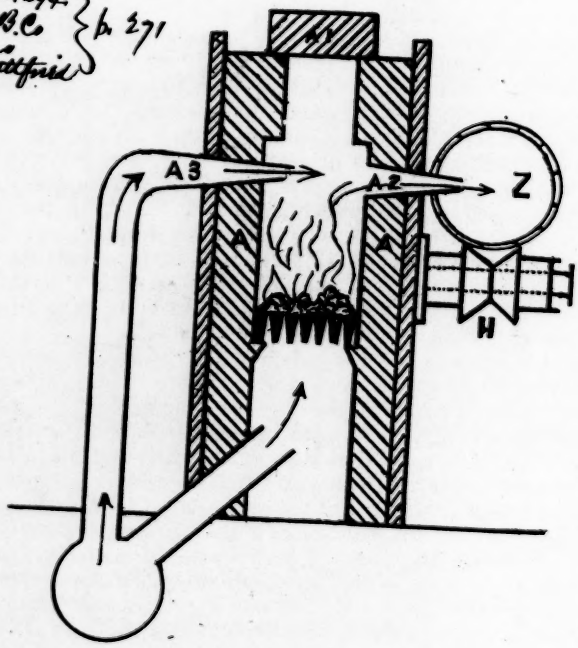
C.B.Co
Gattfried
p. 271



G. H. K. Application of J. J. Russell, 1859, to cask heating, &c., (adapted from Figs. 2, 3 and 6 of his drawing)

The device of A. E. L. Bellford, of 1854, to which my attention is cited, is entitled, in the copy before me, "An improvement in the manufacture of glass." The drawings show and the specifications describe a hot-blast attachment to a glass-smelting furnace, containing provisions for injecting between the supporting sieges upon which the glass pots rest, mingled streams of highly-heated air and gaseous products of combustion in any desired proportion. It would not be difficult, by a few slight modifications, to utilize this device for the purification of casks, substantially as in the cases of Cochrane and Slate, Devaux, Bovill, and Cochrane, and Galloway, previously spoken of.

The device of Russell, 1851, to which my attention has been cited, is entitled, in the copy of the specification, "improvement in machinery used for heating and welding the edges of the plates used in the manufacture of cylinders and other articles." The patentee, Russell, shows a stove or furnace provided with tuyeres for the injection, both above and below the grate, of air-blasts. A series
271 of outlets permits the escape, in minute jets, of the highly-heated gaseous products, which in this case are shown as utilized in raising the lap surfaces of tubes to a welding heat. By the simple addition of nozzles or conductors to these outlets the apparatus of Russell is manifestly applicable for operation on the interior of casks in the same manner as described and claimed in complainant's patent.

In order to illustrate my understanding of the applicability of the Russell device to the purification and pitching of casks I have now made and present a rude sketch compiled from figures 2, 3, and 6 of said Russell's drawing, in which the same letters indicate corresponding parts. It will be seen that Russell's draft inlets attack the fire, both above and below the grate, and that the only changes in the drawing are the prolongation of the outlet a^2, so as to form a nozzle or conductor, and the substitution of a cask, Z, for the pipe *b*, which appears in Russell's drawings. I note in the Russell drawings different forms of furnace, some like complainant's stationary edifices, as, for example, in figures 3, 5, 6, and 7, and others mounted on wheels so as to be portable, as seen in figures 1 and 2. I have, for identification, marked this sketch "G. H. K., application of J. J. Russell, 1859, to cask heating, &c." (adapted from figures 2, 3, 6 of his drawing), and it is as follows:

(Here follows diagram marked p. 271.)

The device of I. L. Bell, to which which my attention is called, is the subject of description in a provisional specification in the English patent office. No drawing accompanies it. It is entitled an improvement in supplying hot blasts to furnaces, and describes an artificial blast capable of being driven either in contact with or through a supplementary fire at the discretion of the attendant. Two such supplementary fires are provided in order that one at least may be in condition for the purpose while the other is being replenished with fuel. No tuyere nozzle is described, but inasmuch

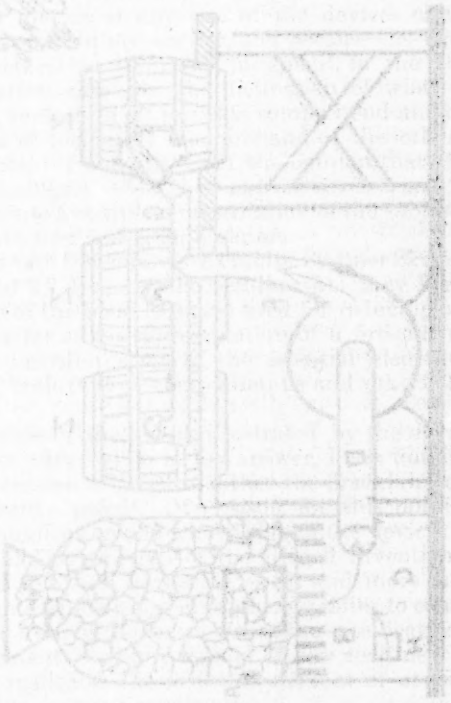
as at the date of the filing of this specification such nozzles were of practically almost universal application for such purpose, the use of such may be presumed. Thus provided, it would require only the substitution of one or more casks for the smelting furnace or cupola to bring it within the language of complainant's first two claims.

272 The device of John James Russell, January 8th, 1857, English patent No. 72 of that year, to which my attention is called, relates to a mode of welding the laps of wrought-steel tubes and appears to have no particular relevancy to the matter in controversy.

The passage and illustration from Tomlinson's Cyclopedia of Useful Arts are familiar to me, the book having formed a part of my library for about twenty-five years last past. The passage describes an apparatus of extreme antiquity, forms almost or quite identical being shown, if my memory serves, in Egyptian papyrus, probably about four thousand years old. If I mistake not, such pewterer's or tinsmith's soldering pots have been unearthed in Pompeii and elsewhere. It is a striking illustration of the prodigious new departure in industrial arts, characteristic of the present time, that this primitive apparatus, even so recently as the publication of Tomlinson, about twenty-seven years ago, should have still constituted a familiar member of the kit of pewterer's tools then used. It is now, to the best of my knowledge, all but obsolete, having given place to the various forms of gas and hydrocarbon blow pipes. Primitive as the pewterer's "hod" is, however, it would seem, if made on a sufficient scale, to present all the complainant's first claim, providing only that its nozzle was introduced into the bung-hole of a cask instead of being directed to the solder joint of a pewter cup.

The extract from Muller's "Handbuch fur Bier-Brauer" appears by the Defendant's Exhibit "Translation" now in my hands to describe a pitching device adapted for use with those casks of larger class which possess a man-hole in their upper head. A pan or portable fire pot is described, which, having been filled with burning embers and inserted in said hole, operates to melt the previously inserted pitch and to heat up the interior surface sufficiently to cause a second supply of pitch, inserted after the withdrawal of the fire, to spread or flow evenly over said surface. The action of the fire and active circulation of the hot air within the cask are greatly stimulated by blow pipe, the details of which, as described in the extract, appear to be fairly illustrated in "Defendant's Exhibit Rheinboldt Sketch." The device thus described appears to fully embody the subject-matter of complainant's first and second claims.

The "Defendant's Exhibit Translation from Der Bier-Brauer, 1861," now in my hands appears to describe, among other things, an apparatus such as I have now rudely sketched, in which A represents "an ordinary small pit or shaft furnace, which is fed with coke or charcoal;" B, the grating of the same; C, a "roomy ash pit;" D, the exhaust passage of a fan, E, connecting the said ash pit; F, the discharge pipe of the fan, provided with one or more nozzles, G, for introduction of the gaseous products to as many casks,



G. H. K. Sketch of apparatus for heating and purifying, &c., the interior of casks describee in "Der Bierbrauer," 1861.

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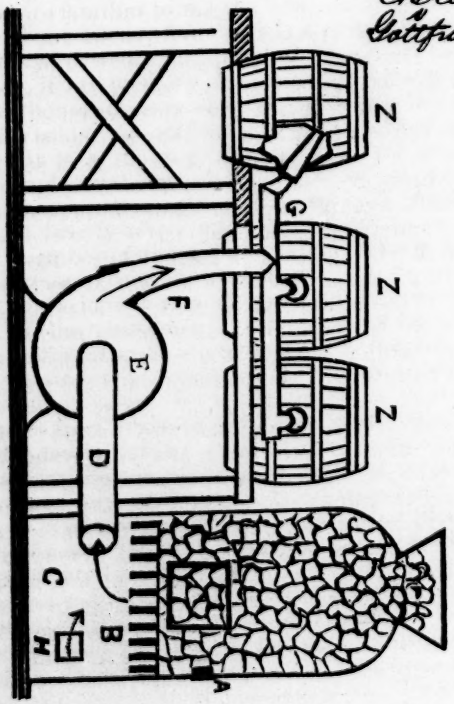

Z. This apparatus would appear to fully meet the definitions both of claim 1 and claim 2 of complainant's patent. To identify
273 this sketch I have marked it as follow: "G. H. K., sketch of apparatus for heating and purifying, &c., the interior of casks described in Der Bier-Brauer, 1861." It is as follows:

(Here follows diagram marked p. 273.)

On examination of the "Seibel pitching machine" and testimony as to its use I am of the opinion that its operation comes under and is comprehended by the language of claim 1 of complainant's patent. I reach this conclusion because the specification of that patent contains no allusion to or admission of the pre-existence of the Seibel device or, for that matter, of any one of the devices cited in the question and referred to in my answer, and because the language of complainant's specification is, in my judgment, in the absence of any such qualification, admission, or distinction of what was new and what was old, such as in its terms to comprehend and claim the mode of operation of the Seibel machine and of the other devices cited in the question. I am further of the opinion that the device of Davison and Symington, 1843, then at their service, and the other devices cited constitute a complete presentation of the subjects-matter of the complainant's first and second claims.

On examination of "Defendant's Exhibits Blettner Sketches Blast Furnace Nos. 1 and 2" I am of the opinion that they fairly represent a simple form of the blast furnaces used for reducing and melting of iron, and, so far as the representation of a fire-chamber with a forced draft, they exhibit some of the essential elements of the pitching machine, both that of complainant's and others that have been cited.

In view of the state of the art as illustrated by the devices cited in the question and adverted to in my answer, I am unable to find any patentable invention original in either the first claim or second claim of complainant's patent. My reason for this opinion is, in brief, that by the publication and knowledge of the devices cited the American public had, at the date of the alleged invention of complainant's, full and complete possession of all and more than all of the expedients which complainants now claim to control. In
274 other words, I am of the opinion that the specification of complainant's patent is wholly devoid of any such new and useful revelation as constitutes the essential element of consideration for which the statute grants a monopoly.

In particular the alleged invention covered by the language of complainant's first and second claims appears to me to be fully met and described in the specification and drawings of the English patent granted to Davison and Symington Nov. 2d, 1843, No. 9924, the same being one of the devices cited in the question and referred to in my answer. The device of Davison and Symington is, as to its source of heat, external to the cask to be operated upon, said heat being stimulated and its gaseous products propelled by a forced draft, also external to the cask; and although the heated gas, which is actually shown as being driven into the cask, is atmospheric air,

yet the inventors clearly suggest the use of other gases, as appears by the following language (line 15, page 8, of copy): "And having now described the nature of the said invention, and in what manner the same is to be performed, we declare that, although we have spoken of atmospheric air as that which is heated and driven in rapid currents into contact with the casks, vats, and other vessels to be cleansed, purified, and sweetened, we do not limit ourselves to the use of such an air alone, but claim a right to the use of any other sort of air, which being heated and driven in rapid currents as aforesaid will produce the like effects." The expression, "through the fire," in complainant's patent, is also applicable to the Davison and Symington device in which the blast, although restricted to its own proper conduits, may be spoken of with equal correctness as being driven "through the fire."

No special allusion appearing in complainant's specification to such a device as Davison and Symington's, nor a distinction drawn between complainant's device and such as Davison and Symington's, nor as to any special kind of fuel to be used, nor whether stationary or portable, I am not of the opinion that the terms of the complainant's specification restrict the invention to the use of a blast in actual contact with the fire, nor even to an apparatus which is external to the cask. In other words, the specification appears to me, in the terms of its first claim, to comprehend such devices as Davison and Symington's and "Der Bier-Brauer," on the one hand, and such devices as described in the Seibel deposition and the Rheinboldt sketch on the other hand, and in its second claim to again comprise Davison and Symington's and "Der Bier-Brauer."

Even should the Davison and Symington device be held not in terms to suggest or imply the use of a blast in actual contact with the fire, I am of the opinion that, in view of the state of the art and the familiar use of blasts in such actual contact as illustrated in the cases of Cochrane and Galloway, Devaux, Bovill, Cochrane and Slate, and the device of Russell, already cited, and in particular the use of such an actual contact blast in "Der Bier-Brauer," the use of such an actual contact blast at the date of complainant's application did not imply the exercise of the inventive faculty.

As far as the actual representations and descriptions may be taken to indicate the inventor's preferred form and mode of operation, the device described and shown by complainants, equally with that described by Davison and Symington, may be considered to project unconsumed atmospheric air into the cask.

275 Q. 3. Would or would not a machine shown and described in the extract from Tomlinson's Cyclopedia be capable of use for the purpose of pitching small kegs without any change in its construction; and, if so used, would or would not the process be the same as that in the use of the machine described in complainant's patent?

A. Yes; undoubtedly.

Q. 4. Do you find the machine in complainant's patent, shown and described, as used in connection with small kegs specifically, or as used in connection with casks?

A. I do not find any specific reference to kegs of any size. The specification throughout uses the words "cask" and "barrels." The only class of cask shown or described specifically is of the kind that possess a man-hole in one head, a feature that is usually characteristic of the largest class of casks.

Q. 5. Do you or do you not find in the extract from "Der Bier-Brauer, 1861," any description of the operation of the machine which would necessitate the passage of the blast air through the furnace and the fire?

A. I do find such reference in section five of the copy in the following language: "In case of superfluous water or steam power a fan, being at command, can be attached and blow the air through the vessels; hereby the fan draws the air out of the channel which connects with the somewhat roomy ash place of a small pit or shaft furnace which is fed with coke or charcoal whenever warm air is desired; the ash place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with the cold air."

Q. 6. What does H, in your sketch "Der Bier-Brauer, 1861," represent, and for what is it described as provided?

A. It represents an inlet, described in the extract in the following language: "The ash place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with the cold air."

Q. 7. State whether the description in these several extracts, respectively—that is, Tomlinson's Cyclopedia, Handbuch fur Bier-Brauer, 1854, and Der Bier-Brauer, 1861, are or are not, in your opinion, sufficiently full, clear, and definite to enable a mechanic familiar with the art as it stood at the dates borne by said several publications to construct therefrom successfully operative machines upon the plan and operating in the method represented by your several sketches relating to said extracts, and whether or not, in your opinion, such descriptions, respectively, would convey to such mechanic a clear understanding of the construction and mode of operation of such machine?

A. I think they are, and that they would convey such understanding.

Q. 8. Please examine the models now shown you and state whether or not they correctly represent the devices shown and described in any of the patents and publications to which you have referred; and, if so, to which they severally correspond, marking them by name to identify them.

A. I recognize in the model, which I mark by way of distinction "G. H. K., Model of Cochrane and Slate," a fair illustrative embodiment of so much of their device as is pertinent to the present controversy. In this model the piece E represents the external cylinder of sheet metal; the piece F, the interior cylinder fixed within the former; G is the fireplace; H is an outlet for the escaping vapor; X is a blast pipe, which pipe agrees with the description in being removable.

276 The model marked by me "G. H. K., Holbeck and Gottfried," represents the features described in complainant's patent in illustrating the processes covered in their first two claims. In this model A represents their "furnace constructed of masonry;" *d*, their draft inlet; *d'*, their discharge inlet; E, their remove pipe; *g*, the hand thereof; D, a cask; *j*, opening in head of same. The mechanical devices *i k*, described in complainant's patent and claimed in claim three, for closing the opening *j*, are not shown in the model. The draft inlet is located, as shown in complainant's patent, above the grate.

The model which I mark "G. H. K., Tomlinson's Pewterer's Hod," is a fair representation of the implement described in that work, except that sheet iron is employed in the model instead of the cast iron of which such hods are customarily made, which cast iron itself displaced those of earthenware, used by the ancients and among primitive people. In this model *h* represents the fire-pot closed by lid L; *b*, the "nozzle" conveying the blast from a "bellows worked by the foot," the bellows not being shown; "*n*, nozzle which directs the current of hot air upon the article to be soldered.

In the model marked "G. H. K., Model of Blettner Sketch No. 2," I recognize a fair embodiment of the furnace represented in that sketch, in which A represents the furnace stake; B, the tuyere holes; C, charging opening; D, ventages for the smoke; E, tamp hole for the escape of the molten metal; F, pedestals on which the furnace is supported.

In the model marked "G. H. K., Model of Blettner Sketch Vogt Machine," I recognize a fair embodiment of the device represented in that sketch and described in Joseph B. Blettner's testimony, in which "A is the air inlet" from a "rotary blower," not shown; "B, a chamber under the grate bars;" "C, the grate;" "D, chamber for coke;" "E, the outlet of the hot air to the keg;" "F, a keg;" "G, the platform that supports the furnace and keg;" "H is a screw that raises and lowers the keg;" "I, a hinge that permits the upper part of the furnace to be turned back;" "K, a lock to hold the said upper part down during operation."

In the model marked "G. H. K., Model of Devaux" I recognize a fair embodiment of so much of that inventor's device as appears pertinent to the present controversy, in which A represents the chamber for receiving air from inlet K; C, chamber constituting the ash pit; F, grate; D and E, pipes to convey the heated and partly decomposed atmospheric air, gas, and vapors from the fire place or furnace through the tuyere pipe to the furnace; E represents the separable tuyere nozzle or conductor. The pipe E is capable, as in the Devaux drawing, of sliding longitudinally in and out of the pipe D. P represents a door which leads into an outer chamber or vestibule, which is not material to the present controversy and is not shown in the model.

In the model which I have marked "G. H. K., Model from 'Der Bier-Brauer,' 1861," A represents "a small pit or shaft furnace;" B, a grating of the same; C, "a roomy ash pit;" D, the exhaust passage of a "fan," E, connecting with said ash pit; F, the discharge

pipe of the fan, provided with one or more nozzles, G, for introduction of the gaseous products to as many casks, Z; H, a cold-air inlet, capable of being partially or wholly closed by means of door, *h*.

277 In the model which I have marked "G. H. K., Model of Davison and Symington, 1843," I recognize a fair embodiment of the parts of those inventors' apparatus which are material to the present issue. In this model A represents the furnace wall; *a b*, pipes which occupy the interior of the furnace and which communicate at one end by pipe C with a "fan blower" and at the other end by pipe D with a series of separable nozzles, E, which in operation occupy the bung-holes of as many casks. In the above-cited models wood is employed to represent masonry, and sheet iron to represent iron.

Q. 9. Is there any difference in effect between dra wing and driving a blast of air through the furnace?

A. There is no difference in effect in kind; there may be a difference in degree; where the blast is driven through a heated mass the velocity may be increased up to a certain limit, dependent on the resistance of such mass; where the air is drawn by what is commonly known as "suction" the velocity cannot rise above that, due to the atmospheric pressure, but practically this may be wholly compensated by increase of the transverse section of the exhaust passage; as affects the utility of the two for the purpose in question, I do not think there is any material difference, nor do I look upon the use of either one to the exclusion of the other as of any consequence in a mechanical point of view, it being common for mechanics to substitute one for the other, the use of one or other form being purely a matter of option and convenience.

Q. 10. How long, to your knowledge, have these been known and recognized by mechanics as interchangeable methods of applying the blast?

A. Of my own knowledge, ever since I first gave serious attention to such matters—about forty-five years ago; my knowledge derived from the history of the subject would place such optional use several centuries back.

Q. 11. How long have rotary fans, to your knowledge, been in common use in this country and elsewhere?

A. As a means of propelling a blast of air, of my own knowledge, about forty-five years.

Q. 12. Have you seen the pitching machines in defendant Moerlein's brewery; and, if so, how were the pipes connecting with the keg attached to the furnace?

A. I have seen such machines in that brewery, both idle and at work; the pipes connected with the kegs were screwed and rusted fast in the furnace walls; there was no evidence of their ever having been removed or intended to be removed from their places in the furnace wall since the original manufacture, and were to all appearances as much a fixture therein as if the wall and nozzles were cast in one integral piece.

Q. 14. How was the fan located with reference to the furnace?

A. It was distant and connected by a long pipe which discharged beneath the fire grate.

Cross-examination by Mr. BANNING:

X Q. 15. Please state which one of the various patents, publications, or devices offered in evidence by the defendants, in your opinion, most nearly embodies the complainant's invention.

A. The device of Davison and Symington.

X Q. 16. Please state where you find in the extract of
278 "Der Bier-Brauer, 1861," the description of any such machine as you have represented in your model, "G. H. K., Model from 'Der Bier-Brauer,' 1861."

A. I gather my understanding of the apparatus from several parts of the extracts, the principal passages being as follows: "If it is desirable to dry casks or other vessels with narrow openings rapidly, * * * the drier and warmer the air is and the more rapidly it is carried through the casks the quicker will the drying be effected. It is necessary, therefore, to have a source of heat and a certain power to blow the heated air through the vessel.

"In this case air at 15° R. temperature can be regarded as dry air, notwithstanding it is quite moist, viz., charged with 12.8 gr. of watery vapor to the cub. mtr., after having it heated to 30°, because then 15.7 gr. can be received in addition, making altogether 28.5 gr. vapor in order to saturate it.

"We need thus for our purpose dry air and a motive power, and generally a source of heat to dry the air and to move the same. In practice these conditions can be variously combined and employed, and we will enumerate a few instances.

"These pipes project four to five inches from the ante-chamber, and are supplied with rubber or varnished leather pipes, which are fastened to air-tight pipes of tin, which are to be sunk into the vessels to be dried.

"A small shaft furnace 1 to 1½ feet wide and 2 to 2½ feet high, of brick, supplied with grate bars and a channel to supply outside air. Coke or charcoal or dried wood are used to start the fire on the grate. In using cut wood, stone, coal, or turf a smoke would be produced and communicated to the vessels, which would damage the taste of the fluids with which said casks are to be filled; therefore these fuels demand an iron stove whose pipe empties into the same chimney into which the pipes of the vessel are let.

"In case of superfluous water or steam powers a fan being at command can be attached and thus blow the air through the vessels; hereby the fan draws the air out of a channel which connects with the somewhat roomy ash place of a small pit or shaft furnace, which is fed with coke or charcoal whenever warm air is desired. The ash place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with the cold air."

X Q. 17. Such model is made to represent your understanding or conception of what is described in the extract from "Der Bier-Brauer," is it not?

A. It is.

X Q. 18. Did you ever see a machine such as represented by your model in operation?

A. I am of opinion that the machine used by Moerlin, which I have seen at work, is essentially such a machine.

X Q. 19. In the Moerlin machines do the fan, furnace, and cask or keg occupy the same relative position to each other as they do in this model referred to in my questions above?

A. Their relative position is different, in that in my model the fan is located between the furnace and the cask, while in the Moerlin machine the furnace is located between the fan and the cask.

279 X Q. 20. That, I understand, is as nearly the machine represented in your model as you have ever seen in operation. Is this correct?

A. It is.

Redirect examination by Mr. PARKINSON:

R. D. Q. 21. If any importance were attached to the construction of the machine in complainant's patent, being such as to pass the air through the furnace unenclosed, as distinguished from passing it through a closed pipe, would or would you not change your answer to cross-question fifteen?

A. I probably should.

R. D. Q. 22. Supposing the passage of air unenclosed through the furnace into the vessel to be heated were assumed to be the substantial feature of complainant's patent, what, if any, of defendant's exhibits embodying this most nearly correspond in structure to complainant's machine?

A. Under the hypothesis which the question presumes, Exhibit Der Bier-Brauer, 1861, most nearly corresponds in structure to the complainant's machine.

R. D. Q. 23. What, if any, of the exhibits that you have referred to, when used as described either in the specifications or depositions accompanying them, apply heated air under blast to the interior of casks by means of a blower propelling the air through the furnace for the purpose of heating casks to be pitched?

A. The devices described in the extracts from "Der Bier-Brauer, 1861," and "Handbuch für Bier-Brauer, 1854," and in the Siebel machine. All of the forms I have cited show the blast made to pass in contact with the fire, while the Davison and Symington also fills the requisitions of the question in every respect.

GEO. H. KNIGHT.

The models referred to in question eight and answer eight are here offered in evidence and marked, respectively, as designated in said answer eight.

Defendants offer in evidence certified copy of specification of English letters patent granted John James Russell June 24, 1857, and numbered 871, marked "Defendants' Exhibit John James Russell, English Patent, June 24, 1857."

ALBERT SCHWILL, of lawful age, being duly sworn as hereinafter certified, deposes as follows:

Q. 1. State your name, age, residence, and occupation.

A. My name is Albert Schwill; age, forty years; residence, Cincinnati; and am a manufacturer of malt.

Q. 2. Under what firm name are you doing business?

A. Albert Schwill and Company.

Q. 3. State whether or not your company has sold pitching machines to Cincinnati brewers, and, among others, to Christian Moerlein and John Hauck; and, if so, who manufactured such machines and what manufacturer's name was upon them.

A. We have sold pitching machines to Cincinnati brewers, and sold said machines to said Hauck and Moerlein. The machines were manufactured by John Stromberg, of Baltimore, and we acted as his agents here. I do not recollect if any name was on them. I do not recollect that we have ever sold any machines but those made by Stromberg, except one, prior to 1873, and am positive that since 1873 we have not sold any but Stromberg's.

280 Q. 4. State about through how many years you have sold said machines; how generally, and whether or not they were publicly advertised during all that period, and, if so, how.

A. If my memory is correct, we have been selling them since the spring of 1873. The machines were, during all this period, advertised through newspapers and circulars, having cuts on them representing the machines.

Q. 5. State whether Gottfried or Holbeck or any one claiming under their patent, or representing those claiming under it, ever notified you that they disputed your right to sell these machines.

A. We were never so notified by anybody.

Q. 6. Please look at "Western Brewer," of January 15, 1880, and state whether or not you recognize it as a serial publication with which you are acquainted; and, if so, about how long you have been acquainted with it as such.

A. I recognize it as such, and have been a subscriber to it for the last four or five years.

Q. 7. Please state whether or not you find therein a cut correctly representing the Stromberg machine to which you have referred; and, if so, how that cut corresponds to the circular heretofore mentioned.

A. I find such cut on page twenty-three, and it represents the machines we are selling and have sold for years as the agents of Stromberg. It is the same as the cut of the circulars.

The publication above referred to is here offered in evidence and marked "Defendants' Exhibit Western Brewer," special reference being made to the cuts and accompanying advertisements at the top of the twenty-third and bottom of the twenty-ninth pages, respectively.

Cross-examination by Mr. BANNING:

X Q. 8. When did you buy the machine or machines from Stromberg? State the date particularly.

A. We purchased them at various times since 1873. I cannot state the particular dates.

ALBERT SCHWILL.

Defendants offer in evidence certified copy of letters patent of the United States, granted William Vogt July 11th, 1871, No. 116,896, marked "Defendants' Exhibit William Vogt, U. S. Patent, July 11th, 1871."

HERMAN LACKMAN, of lawful age, being duly sworn as hereinafter certified, deposes as follows:

Q. 1. State your name, age, residence, and occupation.

A. Herman Lackman; age, fifty-five years; residence, Cincinnati, and am a brewer and proprietor of the United States brewery of Cincinnati.

Q. 2. How long have you been a brewer in Cincinnati?

A. I commenced for myself in 1855, and have been in it ever since.

Q. 3. How do you pitch your kegs and casks?

A. For kegs I take out the heads to pitch; for casks I use a pitching pan like Defendants' Exhibit Seibel Machine. These are the only means I ever used or had used in my brewery for pitching kegs or casks.

Q. 4. How long have you used the pitching pan above referred to in your brewery?

A. Since the fall of 1857 or spring of 1858. I have seen it used in other breweries in this city since before that time.

281 Q. 5. Was the use of this pitching pan in your brewery and others to which you have referred such that the public might have seen it from the first?

A. Certainly; it was where anybody might have seen it.

Q. 6. What, if any, means was employed when you first used and saw used this pitching pan for driving a blast of air through it?

A. We used a blacksmith's blower with a hose attached to it and entering the pipe at the bottom of the pan. I have since bought a Connersville or rotary blower, which I use in place of the blacksmith's bellows to drive a blast of air through the pan.

Q. 7. Are you one of the defendants who has been sued in this court by Gottfried, the complainant herein, for alleged infringement of the pitching-machine patent granted him and Holbeck May 3d, 1864?

A. I am.

Cross-examination by Mr. BANNING:

X Q. 8. Is the pitching pan like that testified to by Seibel the only kind of a machine you have ever used?

A. It is; I am using it to-day yet.

X Q. 9. How have you pitched your kegs?

A. As stated in my answer to question three.

X Q. 10. Have you ever had any one to do your pitching for you; if so, what kind of a machine did he use? Describe it fully, and how and where the pitching was done.

A. My cooper does my pitching and pitched the kegs by hand, as before described, and the casks by the pitching pan. The machine was the pitching pan before described, and was always done in the yard of my brewery.

Redirect examination by Mr. PARKINSON:

R. D. Q. 11. Have you ever made or sold any pitching machines?

A. No, sir; I never did.

HERMAN LACKMAN.

Defendants withdraw from evidence the patent heretofore offered and marked "Defendant's Exhibit John J. Russell's English Patent, January 8th, 1857."

Examination of witnesses on behalf of the defendants, under the 67 rule, in equity, as amended, at the office of Parkinson & Parkinson, No. 75 W. Fourth St., Cincinnati, Ohio, this 4th day of October, 1881, the parties appearing and agreeing that Daniel Kelly may act as special examiner herein.

Present: Thos. A. Banning, Esq., for the complainants, and R. H. Parkinson, Esq., for the defendants.

By request of parties it is ordered that these depositions be taken by question and answer.

JOHN F. JUDGE, a witness produced on behalf of the defendants, being first duly sworn, deposeth and saith, in answer to interrogatories propounded to him by R. H. PARKINSON, Esq., of counsel for the defendants, as follows:

Question 1. State your name, age, residence, and occupation, and what opportunities, if any, you have had of becoming familiar with the laws of chemistry.

Answer. John F. Judge; forty-nine years; Cincinnati; am a pharmacist and analytical and consulting chemist. I have been professor of chemistry for over twenty years in various col-
282 leges and am at present professor of chemistry in the Cincinnati College of Pharmacy; am accustomed to making analysis and have testified as expert in cases under legal investigation.

Q. 2. Please examine the drawing of patent No. 42580 granted Holbeck and Gottfried May 3d, 1864, and state whether or not the arrangement of the entrance blast, the fuel, and the exit pipe, with reference to each other, are or not such as to secure any substantial deoxygenation of the air as it passes through the furnace into the cask. Please answer this question, first, upon the assumption that there is no external opening below the grate during the operation, and, second, upon the assumption that there is a draft or opening beneath the grate; in either case all other things remaining as shown in the drawing.

A. The arrangement of the apparatus in this sketch or diagram is such as would not tend to deoxidize the air to any considerable extent, for the reason that absolute contact of the entire stream of air with particles of incandescent combustible material is necessary for the abstraction of its oxygen; the arrangement is such that most of the air forced in by the fan would pass above and not come in contact with the burning fuel, for the reason that the entrance pipe is placed above the fuel; if there is an opening below the grate this would not tend to promote deoxygenation of the air introduced by the fan, for the reason that if an upward current is established through the grate by virtue of the opening it would furnish the oxygen or most of it required for the combustion of the fuel; if an upward current were not established, then the effect would be the same as though there were no opening below the grate, or a portion of the air introduced by the fan would find its exit downward through the grate and not enter the cask.

Q. 3. Can you state what kind of gases would probably be driven into the cask in the arrangement shown in the drawing and what their effect or tendency would be; in other words, whether they would be more or less likely to produce explosion than simply heated atmospheric air?

A. The gases introduced into the cask would be atmospheric air and the results of combustion. In the combustion of carbonaceous fuel carbon monoxide and carbon dioxide may result. If the combustion is perfect it would be carbon dioxide; if imperfect there would be present carbon monoxide gas in greater or less proportion. The arrangement of the apparatus is such that carbon monoxide gas would be likely to be present in considerable quantity, and, mixed with atmospheric air, explosions would be likely to occur if the mixture of such gas and air became sufficiently elevated in temperature.

Q. 4. Please examine Exhibit "Seibel Pan" and, assuming that a blast of air is driven into the perforated pipe at the bottom and the pan filled with ignited coke or charcoal, please state whether or not there would be substantial deoxygenation of the air as it passed through the burning coke or charcoal.

A. In this apparatus exhibited the arrangement is such that if filled with ignited coke or charcoal the air forced through the openings in the pipe could not escape complete or, at least, practically complete deoxygenation, for the reason that the air would come into actual and complete contact with the incandescent fuel, which latter would abstract the oxygen, and therefore substantially deoxydize the air.

283 Q. 5. Please examine sketch of apparatus for heating and purifying, &c., in George H. Knight's deposition, from Der Bier-Brauer, 1861, assuming the top of the furnace open and the pipe D opening at one end beneath the grate and communicating with the fan. Please state whether or not such an arrangement would be practically effective to apply a blast; or, in other words, whether the fan, arranged so as to draw the blast from the furnace instead of driving it through the furnace, would be practically as

efficient as if arranged to drive through the furnace, and whether or not such an arrangement would deoxygenate the air.

A. In this diagram the fan would be effective in moving the current of air from the furnace to the casks, provided the fuel in the furnace is so arranged as to permit the passage of air for combustion. There would be no difference in the action of the fan so placed as compared with one arranged so as to force the air through the furnace, the action of a fan being to force forward the air within it, and thereby tending to produce a vacuum within the fan, which tendency is overcome by the pressure of the atmosphere forcing in air to take the place of that which is thrown forward. If the fuel in the furnace is so arranged—that is, sufficiently porous—as to permit of combustion the pressure of the atmosphere will be equally exerted in the one arrangement as in the other, and if there is no other opening in the ash pit than that through the pipe D the air before entering the fan must come in contact with the incandescent combustible material which is in the body of the furnace, and cannot therefore escape very thorough deoxygenation.

Q. 6. Supposing the air was driven in as shown in the Gottfried patent and a body of fuel placed between the entrance pipe and the exit pipe sufficiently dense to prevent the atmosphere from passing through it, what would be the effect; would it or would not it be operative?

A. Under those conditions, if there was no other opening through which the air could escape, the action of the fan would be arrested—that is, the resistance to the propulsion of the air would be such as to prevent the passage of air from the fan to the furnace, and render the apparatus inoperative—that is, upon the supposition that the fuel interposed between the entrance and exit pipes is so closely packed as to prevent the passage of air as proposed in the question.

Cross-examination by Mr. BANNING:

X Q. 7. Did you ever see any kegs or casks pitched with a machine?

A. No; I have never witnessed the process.

X Q. 8. Have you ever read the specification of the Gottfried and Holbeck patent?

A. No; I never read the specification.

X Q. 9. If it is stated in the specification of that patent that the air from the blower may be introduced to the furnace "either below the grate or above this grate, as shown in figure 1," would you consider that the patentees meant to limit the introduction of the air to a position above the grate?

A. If the specifications state what the question assumes I would conclude that it meant what is stated—that is, that the entrance pipe might be below or above the grate.

X Q. 10. Assuming that a machine was built exactly
284 & 285 as shown in drawing number one of the patent, would the air, as it emerged from the discharge pipe *d'*, in your opinion, be so deoxygenized as that it would not cause or permit combustion if the fire chamber were filled with burning fuel?

A. If an apparatus were constructed as in figure 1 and the fire chamber was filled with burning fuel as high as the exit pipe, then the air introduced by the blower, provided there is no opening from the ash pit below, will pass through the burning fuel and lose the larger portion of its oxygen and become more or less unfit, after passing through exit pipe *d'*, for supporting combustion.

Redirect examination by Mr. PARKINSON:

R. D. Q. 11. Assuming the drawing of the patent to be as shown, and assuming the specification to contain the statement that the air from the blower may be introduced to the furnace "either below the grate or above this grate, as shown in figure 1," and that there is no statement of any advantage or disadvantage to be obtained by introducing it below the grate, and no mention of deoxygenation, and assuming, further, that the claims are as shown, would you understand that the deoxygenation of the air was treated as a material part of the invention, and that the claims of the patent were limited to such an arrangement as substantially deoxygenated the air, or would you understand that the deoxygenation was regarded as entirely immaterial or not thought of at all, and that the claims were intended to be entirely independent of the deoxygenation of the air?

A. Upon the assumption of the question that the blower may be attached either below or above the grate, and there being no statement touching the proposition to deoxydize the air, and the further fact that the inventors state "what" they "claim as new," &c., to be, first, "the application of heated air under blast to the interior of casks by means substantially as described," &c., I arrive at the opinion that the deoxygenation of the air was either considered immaterial or not perceived by the inventors, for the reason that in making the drawing there has been selected that arrangement which is least adapted to deoxydize the air, and the further reason that claim first, the application of heated air, implies that air is to be introduced into the interior of casks, and not the deoxydized residue of the air and the products of combustion; in other words, air, when it has been deprived of its oxygen, is substantially only nitrogen gas and not air. For these reasons I am led to the conclusion that deoxygenation is not intended in the specification.

J. F. JUDGE, M. D.

286 *Master's Record.*

Circuit Court of the United States, Southern District of Ohio. In Equity.

MATTHEW GOTTFRIED
vs.
CHRISTIAN MOERLEIN and Other Cases.

Deposition of Matthew Gottfried on Accounting.

CINCINNATI, *March 5th*, 1883.

Parties met pursuant to assignment, Thos. A. Banning, Esq., on behalf of complainant, and R. H. Parkinson, Esq., on behalf of

defendants, being present, Judge Fishbach, the master in similar cases pending in the district — of Indiana, and myself sitting together for the hearing of Mr. Gottfried's testimony.

MATTHEW GOTTFRIED, complainant, called and being duly sworn, deposes and says:

Direct examination by Mr. BANNING:

Q. 1. State your name, age, residence, and occupation.

A. Matthew Gottfried; 60 years old; I live and have a brewery in Chicago, and manufacture 40,000 barrels of beer a year.

Q. 2. Are you the complainant and one of the patentees of letters patent of the United States 42580, sued on in this case?

A. I am the complainant and one of the patentees named in the patent referred to, and of course I am one of the inventors of the improved mode of pitching barrels described and claimed in such patent.

Q. 3. Please describe the mode of pitching barrels and casks in general use among brewers before your invention was made, if you know, and point out the advantages, if any, which the patented invention possesses over the old way; state fully and at length, and give your reasons for any statements you may make.

A. I have been in the business of brewing for the last forty-four years, and am thoroughly acquainted with the method of pitching before our invention. It was the practice then to take the heads out of the barrels and casks, lay them on their bellies or sides, put in the necessary quantity of unmelted pitch, put a handful of straw on it, and set fire to it while the pitch commenced to melt and burn; the head was then held in front of the barrel by hand screws or other means, and in this way the operator gauged the amount of fresh air which was necessary to feed the fire. When the barrel had become sufficiently heated and the pitch fully melted the head was then put in and the barrel rolled. This method required the following steps: The hoops of one end of the barrel were knocked off, staves loosened, and the head taken out; the hoops were then put on, the staves brought tightly together to prevent the melted pitch from filling the joints; the fire was then kin-
287 dled in the barrel, the pitch melted, and the wood thoroughly heated. The fire was then extinguished, the hoops again knocked off, staves loosened to admit of the head being put in. The head was then put in, the hoops again put on, and driven tightly to their place. Afterwards the barrel was rolled. This operation was very tedious and slow, and, in spite of the greatest care, barrels and casks were frequently ruined, hoops, heads, and staves were often broken, and seldom could we get the barrels together as tight and perfect as when they came from the cooper. It very often happened that the fire in the barrels and large casks rose so rapidly and burned so strongly that a man could not control it, and I have seen a good many fine casks entirely destroyed by the fire getting beyond control, and this operation was also attended with danger to the buildings and men, and I have known in my experience many accidents

to happen of a more or less serious nature. I once saw a man have his face and hands so seriously injured that he suffered in the hospital over three months. I once had my hair and whiskers burned off and my face and hands seriously injured by pitching in the old way. This is the only way I ever saw pitching done before our invention, but since obtaining our patent I have heard that in some places a fire pan was previously used in the pitching of large casks. According to my information these fire pans were put into the casks through the man-hole, and the heat going out from the top or sides of the pan would heat the cask in about half an hour, more or less, sufficiently for pitching, and often a blacksmith's bellows was used for keeping up the fire in the pan. I have never seen this apparatus used, but from my understanding of it——

(Objection, and witness stopped.)

I wanted to say then that this fire pan could not be used for small kegs and barrels at all.

Our invention was the first that ever enabled kegs and barrels to be pitched without taking the heads out. By the use of our invention great safety and rapidity in pitching are secured. In a test made at my brewery seven men required twenty-eight minutes by the watch to pitch eleven small kegs by the old way, while six men, pitching with the machine the same number of kegs of the same kind, required only four minutes to do it. At another time one experienced man and five green hands pitched fifty kegs in less than fifteen minutes. In pitching a large number I am sure the difference in time will be still greater. In pitching large casks by the old way it required from twenty-five to thirty minutes, while by the new way it takes from two to three minutes only. By using our invention the kegs or casks last about three or four times as long, as they are not knocked to pieces in pitching. The heads, staves, and hoops are never broken, nor are the kegs or casks burned out or injured by the fire, as the heat to which they are subjected is produced in such a way that it does not burn or char the wood. This saving in barrels is a very important matter, as every brewer knows. Another important saving resulting from the use of our invention is in the matter of pitch. Pitch is of such a nature that by exposing it to the direct action of fire its adhesive qualities are greatly impaired. It becomes brittle and easily cracks and scales off, thus requiring frequent pitching, and at the same time the work is more expensive and less effective. All this is remedied by the use of our invention. The
288 heat to which the pitch is subjected greatly improves its qualities, making it much tougher and more adhesive, thus rendering the pitching less frequent and more effective.

Q. 4. State whether you have ever made any settlements or granted any licenses under the patent sued on; if so, state fully and at length all about them, mentioning some of the settlements or licenses.

Counsel for defendants objects to the question as incompetent and irrelevant in addition to the general objection heretofore noted.

A. After our patent was granted we took pains to introduce our invention to the trade, and advertised it in brewers' papers and cirlulars, and also by exhibiting it at brewers' conventions. My copatentee, Holbeck, manufactured machines, and occasionally succeeded in selling a few. We put the price low, making for ourselves only a profit of about $100 per machine. We expected in this way to be able to supply the trade with our invention and to build up a large business in manufacturing machines, but after a time we discovered that the brewers would not respect our rights. A great many of them were using our invention, but to our claims they would make no answers or dispute the validity of our patent. From one pretext or another they kept refusing to pay us anything, although they all admitted the great value of our invention. Finally, as our patent was fast expiring, we saw no other way than to commence suits, which we did against a number of the largest brewers in the West. These suits resulted in decisions in our favor. Since these decisions the brewers for the first time began to respect our rights, and many of them have settled with us. Most of these settlements have been for a gross sum; but wherever brewers have made a statement showing the exact extent of their infringement I have settled with them on the basis of fifteen cents a keg or vessel smaller than a barrel, $1 a cask holding less than thirty barrels, and $1.50 for every cask holding over thirty barrels for every time they were pitched. Some of the settlements for gross sums were as follows:

J. & C. Frey, Fond du Lac, Wis., brewing between sixteen and seventeen hundred barrels of beer a year, paid me $200.

J. Heilman, La Crosse, Wis., brewing between twenty-two and twenty-four hundred barrels of beer a year, paid me $250.

Bechand Bros., Fond du Lac, Wis., brewing between twenty-five and twenty-six hundred barrels of beer a year, paid me $300.

Henry Rahr, Green Bay, Wis., brewing between thirty-four and thirty-five hundred barrels, paid me $350.

Charles E. Young, Bay City, Wis., brewing between thirty-eight and thirty-nine hundred barrels, paid me $400.

Fred. Sehring, Joliet, Ill, brewing between 4,200 and 4,300 barrels, paid me $500.

Märtz Bros., Detroit, Mich., who brew between 5,900 and 6,000 barrels, paid me $600.

Metzler Bros., Brooklyn, N. Y., brewing 8,000 barrels a year, paid me $800.

Anton Mayer, Terre Haute, Ind., brewing about 11,000 barrels of beer a year, paid me $900.

The Greenway Brewing Co., Syracuse, N. Y., brewing 12,000 barrels of beer a year, paid $1,125.

Albert Ziegle, Buffalo, N. Y., brewing between 20,000 and 25,000 barrels of beer, paid me $1,725.

289 Some of the Boston brewers paid me in settlement $5,500.

Some of the Milwaukee brewers paid me in settlement $10,000.

Some of the New York brewers paid me in settlement $16,600. That settlement closed out the cases pending there and included only a few of the brewers.

These are some of the settlements for gross amounts, and they were made after suits had been commenced, but in most cases without further litigation, and when made before the expiration of the patent they included licenses for the future use of the invention until the patent expired.

Where brewers have made statements showing the number of kegs and casks pitched I have settled with them on the basis of so much a keg and cask for each time they have been pitched. Some of the settlements on the royalty basis are as follows:

Jung & Borchert, Milwaukee, Wis., made a contract on the royalty basis Jan. 10, 1880, and they reported April 24, 1880, for the time from December 25, 1879, to April 1, 1880, showing that they had pitched 160 kegs and 41 casks, amounting to $65, at the rate of fifteen cents a keg and $1 a cask. They had no casks holding over thirty barrels. They paid me this $65. The firm was organized December 25, 1879. They desired to settle for the future up to the expiration of the patent, and we agreed upon $110 as the sum to which the pitching would amount, and they paid it and I gave them a paid-up license.

Hill & Piez, Newark, N. J., reported April 6, 1880, that they had pitched with an infringing machine 1,200 kegs and 161 casks, which amounted, on the royalty basis, to $341. They offered me this amount, and said if I would not receive it they would tender it into court, and I preferred to receive it. Then they made an estimate for the future pitching during the life of the patent, which would amount to less than $200, and finally offered me $159, which I accepted and gave them a paid-up license.

P. Lieber & Co., Indianapolis, Ind., reported that they had pitched 450 kegs and 82 casks, at the regular rate of fifteen cents a keg and $1 a cask, which they paid. They did not need any license for the future, as they had bought a machine from Holbeck.

The Genesee Brewing Company, of Rochester, N. Y., reported that they had pitched 600 kegs, 70 casks holding less than 30 barrels, and 208 casks holding over 30 barrels, which they paid for at the regular rate; for the 600 kegs, $90; for the 70 casks, $70, and for the 208 larger casks, $312. Then they estimated their future pitching to the end of the patent, amounting to $228, which they paid, and I gave them a paid-up license.

Bowman Bros., Marshaltown, Iowa, made a sworn report and settled at the regular rate for 500 kegs and 20 casks—the number sworn to. No license was granted in this case.

Jacobi, Coghlin & Co., Toledo, Ohio, reported under oath Sept., 25, 1880, that they had pitched 2,600 kegs, 30 casks holding less than 30 barrels, and 15 casks over 30 barrels, and that they would only need to pitch 300 more kegs and 30 more casks under 30 barrels and 15 more casks over 30 barrels during the life of the patent. They paid for all this at the regular rate, and I gave them a paid-up license.

290 Philip Schuerman, of Hancock, Mich., reported under oath on the 14th day of September, 1880, that he had pitched 160 casks holding less than 30 barrels. He had pitched no kegs or casks holding more than 30 barrels, and he had paid at the regular rate and agreed to pay at that rate until the end of the patent. After the patent expired he reported that he had pitched 22 more casks holding under 30 barrels, and he paid for them at the regular rate—$1 each—in accordance with his agreement.

Vinzing Horder, of Dowagiac, Mich., reported on the 24th day of September, 1880, that he had pitched only 400 kegs and no casks. He paid at the regular rate and took a license and agreed to pay at the same rate up to the expiration of the patent. After the patent had expired he reported that he had not done any pitching since he took the license.

P. & J. Raquet, East Saginaw, Mich., before the master on the accounting swore that they had only pitched 1,200 kegs and 21 casks holding less than 30 barrels. They then concluded to contest the case no further, and paid at the regular rate.

John Wall, Monroe, Mich., reported before the master that he had pitched 1,850 kegs, and he paid at the regular rate.

Schemm & Schoenheit, Saginaw City, Michigan, reported that they had pitched 100 kegs and 134 casks holding less than 30 barrels. They also paid at the regular rate.

Christopher Kern, of Port Huron, Michigan, reported before the master that he had pitched 100 kegs and 8 small casks, and paid at the regular rate.

John Schuster, of Buffalo, New York, made a sworn statement and settled at the regular rate per keg and cask, which, including court costs, amounted to $212.00. I have also made several other small settlements at the same rate per keg and cask.

Q. 5. In making the settlements where you have said you had not been furnished with information as to the number of kegs and casks pitched, which you have termed your settlements for gross amounts, state whether you had any general rule by which you arrived at the amount that you asked. If so, state what such general rule or basis was.

Same objection as to question 4.

A. The general rule for making gross settlements was the number of barrels which they sold during the revenue year, and the general amount was $100.00 for each thousand barrels.

Q. 6. You have stated that where the brewers have furnished you information of the number of kegs and casks which they had pitched or intended to pitch on an infringing machine you charged them so much per keg or cask. State whether you did that in all cases.

A. Yes; I did in every case. I have not accepted less than these figures where brewers have furnished me statements showing the amount of pitching done.

Q. 7. State whether you had any royalty or license fee established during the life of the patent for the use of the invention; if so, state what it was.

Objected to as incompetent, and especially as calling for his opinion on a question of law.

291 A. I had a regular rate of royalty or license fee established under the patent, which I depended upon entirely for my compensation, namely, 15c. a keg or vessel smaller than a barrel, one dollar a cask holding thirty barrels or less, and one dollar and fifty cents a cask holding over 30 barrels, for each time such kegs or casks have been pitched. I have established these figures as my royalty or license fee because, in my opinion, which is the result of large experience in these matters as a practical brewer, they are reasonable, and in many cases less than the actual benefits; and as they were accepted and acted upon by brewers to the extent and manner above set out, I feel confirmed in the reasonableness of these figures and justified in saying that I had an established royalty or license fee.

The latter part of the answer objected to as being matter of opinion and immaterial.

Q. 8. State whether you had any suits under this patent proceeding through an accounting to a final decree, or cases which have proceeded to a master's report in which final decree has not yet been entered. If so, state the names of the cases in which such proceedings have been had, the measure of recovery allowed you, and whether such final decrees, if any, have been appealed from or acquiesced in. Make your answer full and particular.

Objected to on the ground that the evidence called for is not the best evidence, the records of the courts in which such cases, if any, were heard being the only competent evidence thereof.

A. There were two cases which were commenced under this patent in New York in the year 1877 or 1878, in which master's reports have been filed and final decrees entered. These cases were against Philip Schaffer and Susanna Kress, respectively. There were three cases commenced in 1877, at Chicago, against Peter Schoenhoffen, Bartholomae & Roessing, and Fortune Brothers, respectively, in which master's reports have been filed and final decree, entered. Master's reports were also filed in two cases in Iowa against Mathias Frahm and Casper Heil, respectively, but after Judge Gresham's first decision these cases were compromised and dismissed. In another case, in the western district of Missouri, against Siebel & Helm, a master's report has been filed and a final decree entered. In all these reports and decrees I have been allowed the regular rate of royalty per keg and cask as mentioned above, namely, 15c. a keg for vessels smaller than a barrel, one dollar a cask holding less than 30 barrels, and one dollar and fifty cents holding over 30 barrels, for each time they were pitched.

None of these cases have been taken to the Supreme Court. The Kress, Bartholomae & Roessing and the Fortune Bros. decrees have been paid in full. The Siebel & Helm decree still stands against defendant unpaid and unappealed from. Schaffer, who was insolvent, was included in the New York settlement.

The Schoenhoffen decree has been compromised and satisfied. He was using a machine built by him and myself when we were in partnership in the brewing business and before the patent was applied for, and he claimed that he had always used the same machine, repairing it from time to time.

The above are the facts about the various decrees entered where I have had accountings, and show how they have been acquiesced in.

292 Q. 9. You have stated that after the patent was issued yourself and Holbeck had endeavored in various ways to build up a business in manufacturing and selling machines, but owing to the fact that the brewers would not recognize your rights or the validity of the patent, but few machines were sold. State about how many machines were sold by yourself or co-patentee, Holbeck, between the time the patent was issued, in May, 1864, and the time you commenced suits, in 1877.

A. We have sold about 20 machines between the time the patent was issued and 1876 and 1877.

Q. 10. State when the brewers and the trade generally for the first time admitted or recognized the validity of your patent sued on.

Objected to as irrelevant and incompetent, as calling for general opinion as to the view entertained by others.

The counsel for the defendant asks the master to rule upon the foregoing objection, but the master decides to permit the testimony to go in subject to the consideration of the objection hereafter.

A. The first time the brewers commenced to recognize my rights was after Judge Dyer's decision, December 1st, 1879.

Q. 11. State whether since that date, viz., December, 1879, you have ever sold any machines or accepted anything from Mr. Holbeck on account of any machine sold by him, which he may have sold under the license which you have said in your former deposition you gave him when you bought out his interest in the patent, on the 1st day of May, 1879.

Objected to as irrelevant and incompetent.

A. I have not sold any machines nor received any money from Holbeck for selling machines after December 1st, 1879.

Q. 12. State about how many brewers there are in the United States, if you know.

Same objection as last.

A. There are some over 4,000.

Q. 13. State how extensively your invention, about which you have been testifying, has been adopted and used, if you know.

A. Our patented invention has been used in about 3,000 breweries without having paid for the right to use it.

Q. 14. You have, in your testimony to-day, said something about the pitching pan having been used for your invention. State about how many of those pitching pans you have found or heard of in ascertaining the infringements of your patent.

Mr. Parkinson objected to question as irrelevant and incompetent, especially as calling for hearsay reports, the witness having stated that he has never seen personally the machines referred to.

Question withdrawn.

It is agreed by counsel for the parties, respectively, that the general objection heretofore entered by Mr. Parkinson in each of the separate records shall apply to all testimony taken in this general record, in the past as well as in the future, as if made specifically to each question to which it applies; that the ruling of the master and exception of counsel thereto is in like manner continued.

293 Adjourned to to-morrow morning at 10 o'clock.

CINCINNATI, *March* 6, 1883.

Met pursuant to adjournment.

Same counsel present as on yesterday.

Examination of Mr. GOTTFRIED continued:

Q. 15. State which claim of your patent, if any one in particular, covers the means by which all the beneficial results of your invention are obtained.

Objected to by Mr. Parkinson as calling for a legal opinion and the construction of an instrument before the court.

A. The most important claim in this patent is the first one.

Q. 16. In pitching kegs where is the discharge pipe from the furnace inserted into them?

A. In pitching kegs the discharge pipe is inserted into the bunghole.

Q. 17. State how your invention compares with others relating to the brewing business in importance.

Objected to as irrelevant and incompetent.

A. Our invention is one of the most important improvements in the brewing business. There is not hardly one to be placed beside of this.

Q. 18. State whether your invention has come into use among brewers in foreign countries or not.

Objected to as irrelevant and incompetent and, among other reasons, because witness has no personal means of knowing.

A. Our invention has become very popular among brewers as well in foreign countries as in this country, and I suppose there is not hardly a brewery in any country that does not use our invention.

Q. 19. You have said that after your patent was granted yourself and co-patentee, Holbeck, commenced to sell machines at a profit of about $100 per machine. State whether the profit on the machines sold between that time and the commencement of suits in 1876 or 1877 remain the same.

A. When we first sold the machines we had $100 profit per machine, but after a time, when they commenced making machines in

most every town, the price was cut down to $80, and afterwards to $60 and $50—the profits I mean. Then came a number of years when we could not sell any machines at all on account of prices being cut down to the manufacturer's price. Then my co-patentee, Holbeck, and others started the Baltimore Pitching Machine Company, with the purpose of manufacturing machines for a pretty reasonable price and sell them to the brewers all over this country, and this company agreed to pay me $10 per machine. They manufactured about half a dozen machines and never paid me a cent, and the company bursted up.

Counsel for complainant offer in evidence the various masters' reports and final decrees entered on the same, referred to by the witness, together with the record and prior proceedings on which
294 the same are founded, reserving the privilege, however, of withdrawing such portion of the same as he may conclude is unnecessarily offered, in which case defendant's counsel have the privilege of objecting to the portions not withdrawn the same as if such portions only were now offered, the reports and decrees being in the following cases:

Matthew Gottfried *et al. v.* Philip Schaeffer; Matthew Gottfried *et al. v.* Susannah Kress, both in the circuit court of the United States for the southern district of New York; Matthew Gottfried *et al. v.* Peter Schoenhoffen; Matthew Gottfried *et al. v.* Bartholomae & Roesing; Matthew Gottfried *et al. v.* Fortune Bros., all these in the circuit court of the United States in the northern district of Illinois; Matthew Gottfried *et al. v.* Mathias Frahm; Matthew Gottfried *et al. v.* Casper Heil, both in the circuit court of United States for the disrict of Iowa, and Matthew Gottfried *et al. v.* John Siebel *et al.*, in the circuit of United States for western district of Missouri, eastern division.

Counsel for defendants objects to all the certified copies referred to above as irrelevant and incompetent, and among other reasons because they are in effect mere consent entries in suits to which the defendants were not privy; because said records are incomplete and inadequate of themselves to show any *bona fide* action to have been had in said causes or the circumstances under which or purposes with which the said orders were procured.

Counsel for defendant now moves to strike out the foregoing deposition, each several question and answer therein, and the exhibits offered in connection therewith as irrelevant and incompetent, and for the special reasons recited in the objections heretofore entered.

After consideration the masters overrule the motion to strike out the deposition and each several question and answer therein, but grant the same as to the masters' reports and decrees therein offered as exhibits, the masters not regarding said reports and decrees as evidence against the defendants herein; the masters, though, will, in the determination of this case, give such weight to said reports and decrees as authorities as the masters may consider that they are entitled to receive, if any; to which ruling counsel for complainant and defendants, respectively, except.

Cross-examination by Mr. PARKINSON:

X Q. 20. In how many breweries have you personally seen what you call your machine?

A. I am sure I have seen myself infringing machines in from 200 to 250 breweries.

X Q. 21. Your statement that these machines have been used in about 3,000 breweries rests upon what you have been told by others, does it?

A. That is what I have from the reports of our agents expressly sent for the purpose of finding out how many breweries are using the infringing machines, and also from other traveling agents visiting breweries generally.

X Q. 22. How many of these machines have you personally ever seen in use in foreign countries?

295 A. I haven't seen any in foreign countries.

X Q. 23. Of those which you have seen in this country how many have had the blast enter the furnace above the grate?

A. I have not seen a single one having the blast above the grate; our own invention never had a blast above the grate.

X Q. 24. Of what material have the furnaces which you have seen usually been constructed?

A. The furnaces I have seen have been constructed out of iron and brick—the same as our own machine.

X Q. 25. Most of them have had an iron shell and fire-brick lining, have they not?

A. Some have been out of heavy cast iron and some of sheet-iron shell with fire-brick lined inside.

X Q. 26. Most of them have been of one or the other construction described in your last answer, have they not?

A. The biggest part I have seen have been constructed out of sheet-iron shell with brick lining, and only a small number of them have been made out of cast iron, but they have all been worked on the same principle.

X Q. 27. What proportion of them have been portable machines?

A. Every one of them have been portable; there was only one stationary machine built by ourselves, and that was the first one before the patent was applied for; all the rest of them which have been built by my co-patentee, Holbeck, have been portable.

X Q. 28. What kind of blower have you commonly seen used with these machines?

A. I have seen two kinds of blowers; a small number of them used common blowers, but generally they used Root's patented blower which we adopted as the best one.

X Q. 29. When did you adopt it?

A. About two or three years after the patent was issued.

X Q. 30. This Root's blower is a force or compression blower, is it?

A. I know the mechanism employed in the Root blower. The Root blower works on the same principle as a rotary pump.

X Q. 31. The blower you refer to as Root's blower is one having

a powerful external cylinder and two or more rotating wings within this cylinder, between which wings the air is powerfully compressed and so forced with great velocity through the exit pipe or orifice, is it not?

A. Yes, sir; exactly so.

X Q. 32. You can heat kegs and casks more rapidly when this blower is used than you can when the blower shown in your patent is used, can you not?

A. No; you cannot in the first three or four hours. We found that by using the common blower that the grate, by the length of time, would get clogged up by clinkers, therefore we tried this Root's blower and found that we could pitch a whole day without getting the grate clogged.

X Q. 33. Then, if I were to make a test of your machine, using just such a fan as is shown in the drawing of your patent, I would get as rapid work as I would be able to get by the use of a Root's blower if the experiment was confined to one or two hours, would I?

A. No; you would not. When we found that our common blower wouldn't work as in the first three or four hours we cleaned
296 the grate, and it had the same effect as in the beginning. This Root's blower we only adopted for the purpose when we changed the lower part of the machine, but still working always on the same principle as before. I did not exactly understand the question. If you use the fan blower shown in the patent for less than two hours you will obtain just as great rapidity in work as by using the Root blower for the same length of time.

X Q. 34. Does the rapidity of work depend at all upon the shape of the furnace, the size or proportion or arrangement of the ingress and egress pipes, or the mechanical power by which the blower is propelled, or the adaptation of the furnace to resist internal pressure, or the kind of fuel used, or the rapidity with which the blower is worked?

A. I did not find out that the rapidity of the work depended upon the shape of the furnaces. Of course, the rapidity of the work depends upon the air-tightness of the pipes. The pipes must be in proportion to the blower and furnace. If they are not in proportion the rapidity of the work is affected. It does make a difference as to where the pipes are put. It wouldn't work at all if the entrance pipe was put above and the outlet pipe below. Well, of course, the size and speed of the blower has an effect upon the rapidity of the work. The blower and work may be done faster by mechanical than by hand power. It depends on the rapidity of the movements of the shafts. No; as long as the furnace is air-tight the adaptation of the furnace to resist internal pressure does not affect the rapidity of the work. We generally use coke; don't know what the effect of using other kinds of fuel would be.

X Q. 35. Could you do rapid work with a furnace which had a loose top that would fly open when the pressure of the blast was applied?

A. I never saw a furnace with such a loose top which would fly open by starting the fan blower. Of course, if the top was so loose

as to fly open the pressure of air would go out through that opening, as well as through the outlet pipe, and rapid work could not be done.

X Q. 36. In what proportion to the size of the furnace and to each other should the inlet and outlet pipes be made in order to get the most rapid work?

A. In a furnace with sixteen inches internal diameter we generally use a pipe between the blower and furnace of two inches and a half internal diameter, and the outlet hole in the furnace is between four and five inches. In pitching large casks the conducting pipe would be of the same size as the hole, with a reduction so that the end that goes in the cask has a diameter of about four inches, and in pitching kegs the conducting pipe generally has two outlets about an inch to an inch and a quarter in diameter at the outlet end. They generally use the same size pipes and blower with a twelve-inch furnace, simply running it rather slower. It depends upon the speed with which the blower is run.

X Q. 37. The proportion above named you have found to be the best, have you?

A. Yes.

X Q. 38. What was the change in the lower part of the machine to which you referred in answer 33?

A. The change was in reducing the ash pit and inlet, on the ground that we could have it more perfectly air-tight than with the former blower.

X Q. 39. About how long after the patent issued was this change made?

297 A. This change was made between two and three years after the patent was issued.

X Q. 40. Did this change make any difference in the rapidity of work done on the machine?

A. No; it did not make any change in the rapidity of work, but it was so constructed that it could be kept more perfectly air-tight than before. I have pitched before that change casks and kegs in the same time as after the change.

X Q. 41. Do you mean that you ever pitched kegs at the rate of fifty in fifteen minutes before the date of that change; if so, did you make a record of it at the time, and who timed the pitching?

A. Yes; I am sure that I have pitched fifty kegs in less than fifteen minutes, and I have pitched at a brewer's convention in Chicago, before the brewer delegates, at the yard of the North Side Turner Hall, large casks in two minutes, to the great satisfaction of the brewers present.

X Q. 42. When was this?

A. I really don't know. Either in 1866 or 1867 the brewers' convention I have referred to was held. The trials of pitching kegs were made before that at the brewery of Gottfried & Schoenhoffen. These trials were made with the old blower before we adopted the Root blower.

X Q. 43. State more definitely about these tests at the brewery of Gottfried & Schoenhoffen. What was the time of the tests—that is,

were they timed for fifteen minutes or some other period, and exactly how many kegs were pitched in the specified time? Also state whether you have memorandum of this data made at the time.

A. We pitched, several times, kegs, eighths and half barrels, but I did not make memorandum at the time how many we pitched; but I can state particularly that we pitched not less than three and not more than four kegs in a minute. That was the standard number—between three and four kegs a minute.

At this point adjournment for dinner was had, and upon the sitting being resumed Mr. M. J. Day was called to take a stenographic report of the testimony.

MARCH 6TH, 1883—2 o'clock p. m.

Met pursuant to adjournment.

Witness recalled for further cross-examination:

X Q. 44. Were the experiments you referred to in your third answer, in which you state that fifty kegs were pitched in less than fifteen minutes, with a machine using a Root's blower and constructed as described in answer 36?

A. Yes, sir; it was; that was a Root's blower in that experiment, in that test.

X Q. 45. Was the machine constructed as described in this answer 36?

A. Yes, sir.

X Q. 46. When did this experiment take place?

A. This test took place about three years ago.

X Q. 47. You include in the fifteen minutes the time taken for introducing the pitch, rolling the kegs, and tightening the hoops, as well as the time taken for heating them, do you?

298 A. I did not try it the old way that time, Mr. Parkinson. We did not need to tighten the hoops. You see, by pitching with the machine you do not need to tighten the hoops.

X Q. 48. In this experiment, then, with the machine to which you have referred, you did not tighten the hoops?

A. No; we did not need to tighten the hoops.

X Q. 49. What degree of heat did you use?

A. In pitching these fifty kegs in less than fifteen minutes, we did not need to tighten the hoops. About the degree of heat, I must say that we have no instrument to measure the degree of heat.

X Q. 50. State the heat as near as you can.

A. It is impossible for me and I cannot do it. All I can say is, I know by experience how hot the interior of the cask or keg must be, and that is the only measure about the heat I can say.

X Q. 51. How hot is that?

A. I cannot tell by degrees.

X Q. 52. Tell in any way that you can.

A. I never used a thermometer, and I do not know as we can use one.

X Q. 53. Is there any way you can state about the degree of heat that you used in this test for the greatest rapidity of work?

A. No; there is no way that I know of to state the degrees of the heat.

X Q. 54. Now, don't you know, as a matter of fact, that in the using of this machine for the heating of casks or kegs, and especially of kegs, it is a common and necessary practice to tighten the hoops after the application of heat and pitch?

A. You mean when pitching with a machine?

X Q. 55. Yes, sir.

A. No; it is not. If we find it necessary, after the kegs are rolled and the pitch is perfectly hard, then we tighten the hoops; but a great many times we do not need to tighten them.

X Q. 56. Is it not the common practice, after the kegs have been pitched and where the machine is used and after the pitch has been applied, to go over the kegs and tighten the hoops?

A. Not right after the heat and pitch is applied and before the casks are to be rolled. If necessary, we do it afterwards, or the brewers do it afterwards.

X Q. 57. It is a common practice, where a machine is used, to go over them, after they have been rolled and cold, and tighten the hoops, is it not?

A. Yes, sir; it is, if they propose to be certain about it, whether necessary to tighten them or not.

X Q. 58. Do you include in this allowance of time of fifteen minutes for fifty kegs, or in the other allowance of time to which you have referred, the time required for tightening the hoops?

A. To answer these two questions, I must say that by using a machine we do not tighten the hoops after the heat and pitch is applied and before the barrel is rolled, but by pitching them in the old way the hoops are to be knocked off for to admit the head to be put in, and then, of course, we have to drive the hoops on to keep the staves together and to roll it; but that is generally done in a big hurry, and when rolled and the pitch is hard we have to
299 be sure to have them tight and driven to the right place, just as well as others when they are rolled cold, and we drive them whether the hoops are tight or not.

X Q. 59. Now, please try to answer my question. I am not inquiring whether you tighten the hoops before or after the rolling, but what I want to know is whether, in the estimate of time that you take to pitch kegs on your machine, you include the time that is consumed in tightening the hoops, whether that is done after rolling or before, or whether you did not include it?

A. Now, you can't pitch the old way without tightening the hoops after the keg is hot and the pitch is applied, but you can pitch with a machine without doing that.

X Q. 60. I am not talking about the old way, but I want to know whether, in the estimate of time given, you include the time taken to tighten the hoops, or not?

A. Tightening the hoops after the barrels are cold, I did not figure that in the time; but they have to do it in the old way before the pitch is cold, and I would have to include it, because it belongs

directly to the time when the kegs are heated and are rolled and pitched.

Mr. HARPER: What you mean to say is that with the machine you have you do not have to tighten the hoops?

A. Do not need to tighten the hoops.

X Q. 61. Have you included in this estimate of time the time consumed in heating the pitch, in putting the pitch into the keg and rolling the keg?

A. I have included the time in heating the pitch and putting the pitch into the keg, but the rolling is not included, neither by one or the other pitching.

X Q. 62. There are patent machines in use in many breweries for rolling kegs, are there not?

A. Yes, sir; there are.

X Q. 63. The Root's blower, to which you have referred, is one like that shown in the drawing of the Root's patent, No. 81009, of August 11, 1868? (Counsel showing witness drawing in Patent Reports.)

A. Yes; that looks like the interior mechanism of the Root's blower.

X Q. 64. That is sold by P. H. & F. M. Root, of Connersville, Ind., is it not?

A. I do not know.

X Q. 65. It is what is known as the "Connersville blower," is it not?

A. I do not know; we generally call it the Root's blower.

X Q. 66. In these cases where you have in your direct examination stated that settlements were made, were you always present at the time that the settlements were made and took a personal part in the transaction?

A. No; I was not.

X Q. 67. In what cases were you personally present and took a personal part in the transaction?

A. I want to look over my notes. (Witness examining memoranda.) J. & C. Frey, Fond du Lac, Wis.; Henry Rahr, Green Bay, Wis.; Anton Meyer, Terre Haute, Ind., and some of the Milwaukee brewers—four of the biggest.

X Q. 68. Name them.

A. The Best Brewing Company, Joseph Schlitz Brewing Company, Valentine Blatz, and Franz Falk. Those are some of the lump gross amount of settlements where I have been present.

300 X Q. 69. In all those cases you were personally present?

A. Yes, sir; and I think there are a few more, but I am not quite sure.

X Q. 70. Well, I want you to state all you can be sure you were present at and took a part in.

A. Jung & Borchert, of Milwaukee; Genesee Brewing Company of Rochester; Jacobi, Coghlin & Co., of Toledo, Ohio; there are several others that I am not quite sure; I know that I was a good many times present, but I have forgotten the names.

X Q. 71. Were any of these settlements made by letters directed to you; you have spoken of reports made under oath; were they sent directly to you?

A. No, sir; I think not; I think to Mr. Banning; I took the reports from his books; they were not made directly to me, I think.

X Q. 72. The four named in Milwaukee—the Best Brewing Co., Joseph Schlitz Brewing Co., Valentine Blatz, and Falk—were all made at one settlement after you had a judgment against them, were they not?

A. Yes, sir; they were.

X Q. 73. The four together?

A. Yes, sir.

X Q. 74. Had you commenced suit against Jung & Borchert, the Genesee Brewing Co., and Jacobi, Coghlin & Co. before settlement?

A. I had commenced a suit against every one on this list except against Jung & Borchert; they bought a brewery in December, 1879, and they came voluntarily to have this pitch-machine matter in a shape so that they would not infringe; that was the first that was settled—no, it was not the first, but still they came voluntarily and asked for the amount for which they could use the machine; all the rest have been sued.

X Q. 75. When you say all the rest have been sued you mean those given on the list here yesterday?

A. Yes, sir; the list given yesterday and the list I have given you just now; Jung & Borchert are the only ones not sued.

X Q. 76. Did you conduct in person all the negotiations about settlement in the cases where you say you were present, or were a part of those negotiations conducted by your attorney in your absence?

A. Some of these settlements were conducted by me, assisted by my attorney, and some were made by him in my presence.

X Q. 77. Were you present at all the negotiations, or did your attorneys see the parties in your absence as well as in your presence?

A. In which settlement; those I mentioned a little while ago where I was present?

X Q. 78. Yes, sir.

A. Well, then, the question in my absence does not agree with the statement; if I was present I could not be absent.

X Q. 79. My question was not whether you were present, when you were present, but whether there were not negotiations about these settlements or some of them carried on by your attorneys in your absence, even in the cases where you say you were present when the settlement was made.

301 A. Well, I conferred with the brewers; Mr. Banning conferred with their lawyers, so at last the attorneys made the settlement. It was finished by Mr. Banning and Mr. Lynde—that is, in the Milwaukee cases.

X Q. 80. In the other cases you have referred to it was finished in about the same way, I suppose.

A. I will add something to the last answer, if you please—but with my consent; I remember now that Mr. Banning asked me before he closed the matter with Mr. Lynde.

X Q. 81. In the other cases you have referred to it was finished in about the same way as the Milwaukee cases.

A. (Witness examining memoranda.) There is one I was present, and I gave my consent. There is another one I made myself; that is Rahr.

X Q. 82. That is one you have given already.

A. There is another one I made myself; that is Anton Meyer; and Jung & Borchert I made myself, in the absence of my attorneys; the Genesee Brewing Co. of Rochester, the same; Jacobi, Coghlin & Co., I was there myself in Toledo and made it myself without the presence of my attorneys.

X Q. 83. Then cases were settled without your attorneys taking any part in the settlement?

A. The only one where they have not been present is Jacobi, Coghlin & Co., of Toledo; Mr. Banning, when we met there, could not finish the settlement that day, and he had to go away and I finished it when he was gone.

X Q. 84. Then your attorneys took part in the negotiations for settlement in all the cases, did they?

A. Yes, sir; they did.

X Q. 85. To whom was the money paid upon a settlement?

A. The money was paid in all those cases over to my own attorneys, Messrs. Bannings, except in the Jacobi, Coghlin & Co. case in Toledo; that was paid over to me.

X Q. 86. In what cases was it paid over to your attorneys in your presence?

A. (Witness examining memoranda.) J. & C. Frey, Henry Rahr, Anton Meyer, Jung & Borchert, Genesee Brewing Co.; that is all; I have some other settlements made I have not upon this list, where I have been present in some of the settlements, but I can't remember the names now.

X Q. 87. What representations, so far as you know, were made to the parties out of whom you got these settlements as to the expenses they would be put to in defending the suits which had been brought against them?

A. Mr. Harper, will you please explain this question?

Mr. HARPER: What Mr. Parkinson desires to know is what representations you made or what you said to those people with whom you made settlements as to the expenses they would be put to if they went on and fought you.

A. I do not know of any representations.

X Q. 88. You never said or heard your attorneys say to
302 any of these parties or to the attorneys representing them that it would cost them a good many hundred or a good many thousand dollars to fight the suit, or that it would be cheaper to settle than to fight, or that the case would be carried to the Supreme Court if not decided in your favor in the court below, or that you expected to get an injunction to stop the use of their machinery, or

that the court would inflict a heavy penalty upon them for infringing, or any words to this effect, did you?

A. I do not know of anything of that kind; I did not say anything of that kind to the parties I settled with or hear my attorneys say it.

X Q. 89. Did you make a demand for settlement upon these parties before suit was commenced?

A. My attorneys did; I did not myself.

X Q. 90. And the parties refused to settle until after suit was commenced, did they?

A. Yes; they did.

X Q. 91. And in all the suits there was a prayer for injunction against the use of the machinery they had used?

A. In all the suits?

X Q. 92. Yes, sir. I ask whether in all the suits the bills of complaint were all in the same form, asking for an injunction and an accounting for damages?

A. I do not understand,

Mr. HARPER: The question is whether the paper filed in the other cases by Mr. Banning did not ask for an injunction.

Mr. BANNING: Certainly; the bills pray for an injunction in all the cases.

X Q. 93. The prayer for relief in all these cases was the same as in the suits in which you are testifying, was it?

A. I have to refer to my attorney. I have not read them.

Mr. BANNING: They were all substantially like the prayer in these cases.

X Q. 94. Was not there in some of these cases to which you have referred a rebate or offset allowed to the defendants?

A. No; there was not.

X Q. 95. What was done with the money obtained from them?

A. My attorneys turned it over to me.

X Q. 96. The entire amount stated to have been paid?

A. Yes, sir.

X Q. 97. And was that kept by you?

A. It was.

X Q. 98. And is still kept by you?

A. If I did not disburse it otherwise.

X Q. 99. When was the first settlement made with anybody upon your estimate of royalty?

A. It was by Jung & Borchert, of Milwaukee. It was January 10th, 1880, and the payment was made in April, 1880.

X Q. 100. Had Jung & Borchert just purchased a brewery which had a pitch machine in it?

A. Yes; they had purchased a brewery in 1879, and among other things there was a pitch machine in the brewery.

X Q. 101. Can you name any party who put a pitch machine into his brewery for the first time upon an agreement to pay you royalty for the use of the machine?

A. No, sir; I cannot.

303 X Q. 102. Then in all the cases where you made settlements upon the basis of royalty estimated by you the parties with whom you settled had machines already in use, had they not?

A. Yes; they had.

X Q. 103. And they made the settlements to obtain a release for the past use and to get a general release for the remainder of the term of the patent?

A. That is the fact; there are some exceptions, however; some did not take a release for the future and some did not need any; settlements had been made before that patent had expired and some did not take any release from the fact that they did not need any, because they had bought the machine from Holbeck.

Mr. BANNING: I ask the master to instruct the witness that the last two questions are limited to where he received fifteen cents a keg, because he is answering as to the gross settlements.

Mr. HARPER: Does this answer you have just given of settlements refer to the royalty basis?

A. Yes; I understood him to put it that way.

Mr. FISHBACK: You understood it right, then, and not where you made gross settlements?

A. No, sir.

X Q. 104. In those instances where the right to use for the remainder of the term of the patent was included in the settlement there was no limitation upon the number of kegs which the party would be allowed to pitch, was there?

A. It was in those cases which had been made in lump settlements.

X Q. 105. In what, if any, cases was the party with whom you settled or to whom, as you term it, you gave license to keep an account of the number of pitchings in the future and to report to you the number of pitchings down to the end of the term of the patent and to pay you fifteen cents a keg or any other stated sum up to the expiration of the patent?

A. It was in all the cases which had been made before the expiration of the patent, except the few which did not need any or did not want any.

Mr. HARPER: Did the persons who took the license agree to report how many kegs were pitched up to the expiration of the license?

A. Yes, sir; to keep an account of the pitching.

X Q. 106. Now, give me the names of the parties to whom you gave license, which provided that they should keep an account of the number of kegs they pitched and should pay you fifteen cents a keg upon all kegs pitched in the future and report to you and pay to the expiration of the patent and the time when those contracts were made.

A. There was Philip Sheuermann, of Hancock, Michigan; he reported on the 14th of September, 1880.

X Q. 107. First I want to know when the contract was made.

A. Well, that was the date that the contract was made; that he had pitched one hundred and sixty casks holding less than thirty barrels.

Mr. HARPER: He wants to know the names of the persons who agreed to report to you; and, if so, what report was made
304 afterwards. Now, did Sheuerman report to you afterwards?

A. Yes, sir; he reported, after the patent had expired, that he pitched twenty-two casks holding less than thirty barrels for which he paid at the regular rate, one dollar each.

The cross-examination was here temporarily suspended to allow Mr. Banning to identify some papers by the witness.

Mr. BANNING:

X Q. 108. Look at these papers which I now show you and state whether they are the contracts that you have referred to between yourself and Jung & Borchert, Hill & Piez, The Genesee Brewing Co., Jacobi, Coghlin & Co., Vinzing Horder, and Phillip Scheuermann (showing witness papers).

A. Yes, sir; they are all right.

X Q. 109. Do they correctly and truly state the contract that was made between yourself and these various parties?

A. Yes, sir; they do. I examined them before I signed them.

Mr. BANNING: I now, on behalf of complainant, offer in evidence the contracts referred to in question 108 and the answer thereto.

Mr. PARKINSON: I will enter an objection as to their competency.

Cross-examination resumed by Mr. PARKINSON:

X Q. 110. These contracts just offered in evidence represent all the contracts for license fees to be paid after the date of the contract that you made, do they?

A. Yes; they are all that kind of contracts.

X Q. 111. And all, with the exception of that of Jung & Borchert, were made in connection with the settlement of suits pending against the parties, were they?

A. Yes, sir; they were.

X Q. 112. About when was the profit on your machines reduced from one hundred to eighty dollars?

A. As much as I remember, it was in 1866.

X Q. 113. About when was it reduced to sixty dollars?

A. The next year after that.

X Q. 114. Does this one hundred dollars, eighty dollars, and sixty dollars include the profit made by selling the furnace only, or the profit made by selling the furnace and the fan or blower?

A. It is made by the furnace only.

X Q. 115. At what price was the furnace sold during those years from the date of the patent to the time when you transferred to the Barrel Pitching Machine Company of Baltimore?

A. The price was first two hundred dollars; then came down gradually to one hundred and fifty dollars. It had reached one hundred and fifty dollars at the time we transferred to the Barrel Pitching Machine Company of Baltimore.

X Q. 116. Up to the time you transferred to that company you sold all the machines that you could find a market for, did you?

A. Yes, sir; we did.

X Q. 117. From the time that the title came back to you or to you and Holbeck who has been selling the machines under the authority of the patent—you or Holbeck or some one else?

305 A. Holbeck manufactured the machines under the patent' and Stromberg, of Baltimore, manufactured the machines under the patent.

X. Q. 118. Has Holbeck been manufacturing under authority of the patent ever since the title came back to you and him down to the expiration of the patent?

A. He has been manufacturing machines under the patent up to the expiration of the patent.

X Q. 119. He has been selling them generally, has he?

A. He has been selling very few.

X Q. 120. Has he been selling as many as there was a demand for?

A. No; there has been a great many infringing machines in the market.

X Q. 121. What I want to know is, whether he sold as many as he found a market for?

A. Of course he did.

X Q. 122. There has been no limitation upon his right to sell as many as he could, has there?

A. There was no limit about it.

X Q. 123. At what price have they been sold since the title came back from the Barrel Pitching Machine Company of Baltimore?

A. I do not know; I could not tell.

X Q. 124. At what time did you purchase Holbeck's interest in the patent?

A. On the 1st day of May, 1879.

X Q. 125. Since that time he has had a license from you to manufacture these machines, has he not?

A. Yes, he had; but his license was a part of the purchase-money. I bought his interest out for ten thousand dollars and he insisted upon having a license to manufacture machines; so the license was a part of the purchase-money. Without this he would not have sold me for ten thousand dollars; he would have asked me more for his interest.

X Q. 126. What license fee was it agreed he should pay you upon the machines sold by him after this transfer?

A. He paid me fifteen per cent. of the gross amount *of the amount* that he sold the machines for. He made two kinds, a larger and a smaller one, and we agreed upon fifteen per cent. of the price of the machine.

X Q. 127. In your former deposition you stated this agreement to be that he should pay you ten per cent.; you now state it fifteen per cent.; which is correct?

A. I think the former one was a mistake either by myself or the notary.

X Q. 128. Is it not the fact that that statement was made in answer to a question from me, and that it was read over to you at the time, and that there was at the time considerable talk of the record between you, your attorney, and myself about that ten per cent.? I refer to the time when your deposition was taken in the office of your attorneys in Chicago, June 30th, 1881.

A. I do not remember about this percentage; I think it ought to be fifteen.

306 X Q. 129. At the time this deposition referred to was taken you were in Chicago?

A. For an answer I refer to Mr. Banning to produce the contract, if he has it. It may be I have forgotten; I could not tell now.

Mr. Banning: Here is the agreement referred to by the witness; you can examine it for yourself (showing counsel paper).

X Q. 130. The deposition in Chicago, in which, according to the record, you stated the rate to be ten per cent., was taken only about a year after the making of the contract, was it not?

A. Yes, sir.

X Q. 131. The contract now produced by your attorney does not state the amount to be paid, does it?

A. No; it does not state.

X Q. 132. Prior to the date of this agreement, May, 1879, had you been sharing the profits of the sale of machines by Holbeck or had he been paying you a fixed sum for your half interest?

A. I had not been sharing the profits with him, but he only paid me some interest, some percentage that this contract is referring to, and I am sure it was fifteen per cent.

X Q. 133. That is, fifteen per cent. of the gross selling price?

A. Of the gross selling price; yes, sir.

X Q. 134. How much did that amount to upon the average during that time?

A. Well, he had two kinds; he had one kind he sold for one hundred and twenty-five dollars and the other one hundred and eighty-five dollars, and he paid me fifteen per cent. of the whole amount on each machine; that does not include the blower.

X Q. 135. After May, 1879, was there not an agreement between you and Holbeck by which you lowered or released a portion of the license fee or percentage to be paid by him?

A. No; it was not; it was only a renewal of the old contract.

X Q. 136. After you made this contract (showing paper)?

A. No; this was the last one. No; I did not make any other contract after this.

X Q. 137. Refer now to your prior deposition in these cases and see whether ten per cent. was not referred to at least four several times as the amount of license fee to be paid?

A. Yes, sir. Well, if a man makes a mistake he sometimes makes it a whole day.

X Q. 138. Did you not also in that deposition state that this license fee was released from the 1st of December, 1879, on, and is not that the fact?

A. Yes, sir; that is the fact and it is true.

X Q. 139. Who besides yourself has any interest in the recoveries to be had in these suits?

A. Up to the 1st day of May, 1879, Holbeck had a half interest in the suits besides me; since that time nobody but myself; after the 1st day of May, 1879, nobody but myself.

X Q. 140. Then all the recoveries in suits brought since that date go to you solely, do they?

A. Yes, sir.

307 X Q. 141. How about recoveries in suits commenced before that date?

A. Before what date?

X Q. 142. May, 1879. To whom do they go?

A. Any suits commenced before that time all come to me.

X Q. 143. How much have the settlements made by you or in your behalf since the date of that transfer—that is, May, 1879—amounted to?

Mr. BANNING: We will figure up that amount and furnish it to you if you wish. The collections have amounted to, probably, one hundred and fifty thousand dollars, although I do not state it exactly, as I do not have the books before me.

X Q. 144. In the four thousand breweries or more which you have estimated to be in operation in this country about how many kegs and how many casks would you estimate to be pitched annually?

A. I can only make a rough guess; it is impossible to give it correctly, but I think in the neighborhood of fifty or sixty million kegs are to be pitched a year; of casks, that is harder to say; I should think about ten per cent. of that amount for casks.

X Q. 145. That would be about five or six million?

A. Yes; about ten per cent. of the number of kegs.

X Q. 146. About what proportion of these casks would be thirty barrels or over?

A. That is impossible to say.

X Q. 147. Well, just your estimate; you know better than I, I suppose.

A. Well, I suppose thirty per cent. over thirty barrels and seventy per cent. under thirty barrels; that is a guess, as near as I can make it.

X Q. 148. In these cases where you have testified about judgments being entered by the courts fixing the amount of your recovery, in how many were you present at the time the entries upon the court records were made or ordered made by the judge?

A. I have not been present at any of them, as I remember. All I stated I have from the books of my attorneys.

X Q. 149. Did you ever know of any explosions of kegs or casks to take place when your machine was used to heat them for pitching?

A. I, myself, never had an explosion and never heard that anybody else had one by the use of our machines.

X Q. 150. You never heard of any accident of any kind occurring?

A. No; I did not.

X Q. 151. In the test made with your machine in pitching kegs how many pipes were used connecting the furnace with the keg?

A. There was one pipe with two outlets used.

X Q. 152. Then the machine was constructed so as to pitch two kegs at a time, was it?

A. Yes; it was.

X Q. 153. Are you a chemist?

A. I am not; no, sir.

Thereupon the further hearing was adjourned until to-morrow at 10 o'clock a. m.

WEDNESDAY, *March 7th*, 1883.

Met pursuant to adjournment.

308 Cross-examination of Mr. GOTTFRIED resumed:

X Q. 154. The $10,000 settlement in Milwaukee, the $5,000 in Boston, and $16,600 in New York were each of them against several brewers, were they not?

A. Yes; they were.

X Q. 155. In those in New York and Boston was there an allowance made out of the amount paid by the brewers to go to the attorney representing the defendants?

A. No; there was not any allowance made out of the amount paid by the brewers for the defendants' attorneys?

X Q. 156. Is it not a fact that a portion of the amount for which these settlements were nominally made went to one or more attorneys representing the defense or acting in behalf of the brewers?

A. Not to my knowledge.

X Q. 157. Was not this the case in other settlements to which you have referred?

A. I do not know such a thing.

X Q. 158. About what number of kegs and casks per year did the several breweries in Milwaukee pitch who were included in that $10,000 settlement?

A. We did not consider about the number of kegs or casks; I don't know; we did not estimate them.

X Q. 159. The aggregate amount of pitching per annum by these four breweries would not be much short of 100,000 kegs, would it?

A. To answer this question I would have to find out how many barrels of beer they sold a year to get an approximate estimate.

By Mr. BANNING: For the revenue year preceding the settlement the Philip Best Co. made about 167,000 barrels of beer; the Joseph Schlitz Brewing Co. made about 110,000 barrels of beer; the Valen-

tine Blatz firm, about 53,300 barrels of beer; Franz Valk's firm, about 34,000 barrels of beer; J. Oberman & Co., about 7,000 barrels; the Milwaukee Brewing Association, about 4,000 barrels of beer, and A. Gettelman, about 4,000 barrels of beer, the three last named being also included in the settlements, making in all, as an aggregate, about 380,000 barrels of beer.

A. (Continued.) Generally we count 100 kegs to each 1,000 barrels of beer, and about eight to ten casks to every 1,000 barrels of beer; it depends upon the size of the casks.

X Q. 160. About how long had these breweries been using infringing machines?

A. Some of these had been using infringing machines only for a short time, and some had been pitching with them a number of years; but for particulars I will have to refer to the books; it is impossible for me to specify how long the brewers above named had each used infringing machines.

X Q. 161. The Philip Best Brewing Co. began using an infringing machine prior to 1870, did they not?

A. It is impossible for me to say; some of them bought infringing machines and some of them bought our machines.

X Q. 162. About how many barrels per year were the New York and Boston breweries, with which you made settlements, manufacturing?

309 Mr. Banning states that the settlement at New York for $16,600 included Otto Huber, who made about 30,000 barrels of beer; G. Bechtel, who made about 50,000 barrels; Meyer & Bachman, who made about 50,000 barrels; Rubsam & Horman, about 50,000 barrels; Eckert & Winter, about 30,000 barrels; Maupi, who made about 6,000 barrels; Eckstein, who made about 20,000 barrels; Joseph Ahles, who made about 15,000 barrels; George Ehret, about 200,000 barrels of beer; Finck, who was making about 2,000 barrels of beer; Bauer & Betts, who were making about 30,000 barrels of beer; Rochester Brewing Co., which was making about 50,000 barrels; Jacob Ruppert, who was making about 100,000 barrels; George Ringler, about 50,000 barrels; Joseph Lutz, who was making less than 1,000 barrels. Of these Otto Huber, Rubsam & Horman, George Ehrett, Bauer & Betts, Rochester Brewing Co., Ruppert, Geo. Ringler, and one whose name I am unable to make out were using Stromberg machines or had licenses which they had acquired from Stromberg, while one-sixth interest in the patent was in him; Lutz had failed, so that we considered that we only had claims that could be enforced against George Bechtel, Meyer & Bachmann, Eckert & Winter, Maupi, Eckstein, Ahles, and Finck. The figures that I have given above are taken from the official reports to the revenue department for the year ending May 1, 1881, as published in Wing's Brewers' Hand Book.

The settlement at Boston was made through H. A. Banning, our partner, located in New York city, and I am unable to state from memory the names of the brewers included in it, and have no memorandum that will enable me to do so. If desired, however, I will

procure and furnish the names and amount of beer sold by the various parties, respectively, for the year ending May 1, 1881, or the revenue year preceding settlement.

X Q. 163. What decree was entered in the suits against Huber, Rubsam & Horman, Ehret, Bauer & Betts, Rochester Brewing Co., Ruppert, and Ringler?

A. I could not tell; will have to refer to my attorney.

Mr. BANNING: No decrees of any kind were entered against any of these parties. The suits were dismissed at complainant's costs.

X Q. 164. Do you know whether the parties named in question 163 paid or undertook to pay any portion of the $16,600?

A. I will again have to refer to my attorney; do not know about New York settlement.

Mr. BANNING: I am unable to say whether they contributed any portion of the $16,600 or not, as the money was paid to us in a lump, but I understood that they were to contribute to the amount.

X Q. 165. Was the payment of this money made before the dismissal of those suits and the dismissal of them one of the con-
310 ditions upon which it was made, and was the same entry made in them as in the other suits included in the settlement?

Mr. BANNING: The money was paid before the suits were dismissed, and it was agreed that they should all be dismissed upon payment of the money. The entry was the same in all the cases, as I am informed.

X Q. 166. How soon after the issue of your patent did you know that infringing machines were being manufactured and put into use?

A. I remember that there was one manufactured in Louisville in 1867. I knew that there was one in use about three years after the patent was issued. In 1867 or 1868 one of the Louisville machines was tried in a brewery in Chicago, and I saw it. It was a Vogt machine. I guess the next one, if I am right, was in Detroit, 1869 or 1870, Benoit's machine. I knew of it in the years I have mentioned. After that they were made very generally, and up to the expiration of the patent some forty or fifty different manufacturers, and then some brewers also made their own machines.

X Q. 167. In what instances, if any, have you brought suit for either an injunction or damages against the manufacturers of machines?

A. We did not bring any suits against manufacturers at all, except brewers who made their own machines.

X Q. 168. At what date was the settlement with P. Leiber & Co. made?

A. Have not got the date, and will have to refer to my attorney.

Mr. BANNING: It was some time in the summer or fall of 1880.

X Q. 169. How did it happen that the settlement with Scheuerman included no kegs?

A. It depends on the foreman, generally. Some of these old brewers preferred to pitch the kegs by hand and the casks by machine, and some the casks by hand and kegs on the machine.

X Q. 170. And Scheuerman was one of the brewers who, having a machine, preferred to pitch the kegs by hand, was he?

A. It seems he did, because he reported under oath that he did not pitch any kegs on the machine.

X Q. 171. You find some of the brewers pitch both kegs and casks by hand, and insist that it is better than to use a machine, do you not?

A. Yes; I have found some small brewers pitching in the old way, as they cannot depart from the methods which they have been used to since they were boys.

X Q. 172. You find the same true of some large breweries, do you not?

A. I do not know of one brewery of any account which does not use my invention.

X Q. 173. Would you not count the United States Brewery, otherwise known as the Herman Lachmann Brewery, as one of the larger breweries?

A. It is one of the smaller breweries; 20,000 barrels is not a very large brewery.

X Q. 174. What is the size of the Lemp Brewery, in St. Louis?

A. About 100,000 barrels of beer in the year ending May 1, 1881.

X Q. 175. What is the size of the Winklemeyer Brewery, in St. Louis?

A. About 30,000 barrels in same year.

311 X Q. 176. State the size of the Stifel Brewery and the Wainright Brewery, of St. Louis; also the Lafayette Brewery and the Anheuser-Busch Brewery, in St. Louis.

A. Stifel Brewery was 30,000 barrels; the Wainright Brewery, 50,000 barrels; Anheuser-Busch Brewery, 150,000 barrels. There is a brewery, Lafayette St., St. Louis, 10,000 barrels in 1879. The other figures are for the year ending May 1, 1881.

X Q. 177. Is your machine, or any machine similar to those held to be infringements, used in the Anheuser-Busch Brewery?

A. No; there is not. The machine generally used in St. Louis is the superheated steam machine, known as the Anheuser machine.

X Q 178. Look at the paper now shown you and state if you are familiar with the handwriting; and, if so, whose handwritiug is it? I refer to that in ink.

A. I do not know this handwriting.

Redirect examination by Mr. BANNING:

R. D. Q. 179. In your testimony yesterday you were asked if it was not necessary to sometimes tighten the hoops of kegs after they had been pitched with your machine, when the pitch had become cold or hard, and you stated that it was. Is this not also true of kegs pitched in the old way after the pitch in them becomes hard?

A. It is more necessary when pitched by the old way than when pitched by the machine.

R. D. Q. 180. You have stated, in speaking about the fifty kegs pitched in fifteen minutes, that this did not include the rolling. State whether the twenty-eight minutes required to pitch eleven kegs in the old way included the rolling of them while the pitch was getting hard or not.

A. In none of these tests did we include the rolling, because the rolling has to be done by one as well as by the other, and has nothing to do with the pitching.

R. D. Q. 181. You have said that Philip Scheuerman made a statement after he had taken a license from you. State if this is not also true of Jung & Borchert.

A. Yes; I must state that it is true of them also.

R. D. Q. 182. State whether, in the case of those parties who took a license from you on the fifteen-cent basis, you gave a paid-up license to any of them until after they had given you a statement of the amount of work they intended to do during the life of the patent and paid you for the same at the regular rates.

A. I did not unless they did so.

R. D. Q. 183. I understood you to say yesterday that there was no limit on Holbeck's selling machines after May 1, 1879. State how that was.

A. If I stated so I overlooked the matter in the license or the clause in the license that he should not sell any machines to those parties which had not yet settled with me.

312 R. D. Q. 184. You have said this morning that about 100 kegs was required for a thousand barrels of beer sold. In your experience is this true generally?

A. That is about the average in general.

R. D. Q. 185. Then it would require about 1,000 kegs to 10,000 barrels of beer, would it?

A. Yes.

R. D. Q. 186. And 10,000 kegs to 100,000 barrels of beer?

A. Yes.

R. D. Q. 187. And 100,000 kegs to 1,000,000 barrels of beer?

A. Correct.

R. D. Q. 188. About how many million barrels of beer were made and sold in this country the year before your patent expired?

A. About fifteen millions.

R. D. Q. 189. Then if it required 100,000 kegs to 1,000,000 barrels of beer sold, it would require about 1,500,000 for fifteen million barrels, would it not?

A. Yes, sir.

R. D. Q. 190. Then why did you state yesterday that the brewing business of this country required probably fifty to sixty million kegs?

A. I took the number of kegs of beer sold instead of the number of kegs in use. That was the mistake I made.

R. D. Q. 191. Do you want to make a correction, also, about the number of casks in use?

A. Certainly; I ought to. It should be 8 to 10 per cent. of the

number of kegs in use—that is, for every 100 kegs in use there would be 8 or 10 casks.

R. D. Q. 192. State whether a description of your invention was ever published in Germany, and whether you have ever seen the publication containing it.

A. There was a description of our invention published in a German paper in the city of Weis-Baden, in the so-called Der Bier-Brauer, and I have seen a copy of that publication; and when I was in the old country in the fall of the year 1867 I was visiting the editor of that paper and he told me that he received a copy from the firm of Schwarz & Geiger, of New York, to whom we had given an advertisement of our invention, and they had sent it to the editor of Der Bier-Brauer.

Counsel for complainant offers in evidence the contract with Holbeck of May 1, 1879, referred to by the witness.

Recross-examination by Mr. PARKINSON:

R. X Q. 193. The machines manufactured and sold by Holbeck since May 1, 1879, have been marked under the patent without any mark to indicate any limitation upon their sale or use, have they not?

A. Yes.

R. X Q. 194. You have done nothing to prevent their being thus marked and sold, have you?

A. No.

MATHEW GOTTFRIED.

313 MARCH 16TH, 1883.

Counsel for complainant gives notice that their "*prima facie*" evidence on the accounting in the Gottfried cases before me is closed.

APRIL 18*th*, 1883.

Counsel for complainant requests the following to be entered on the record:

The complainant hereby waives all claim to profits made by the defendants by the use of the invention described and claimed in patent No. 42580, sued on; but, as defendants' evidence has not yet been taken and its nature and extent not yet disclosed by the defendants, he reserves the right to withdraw this waiver and ask for profits where defendants' evidence is taken. In case, however, of the withdrawal of the above waiver the defendants shall be permitted to proceed to take evidence on the question of profits before finally closing their evidence on the defence. If no evidence at all be taken by the defendants, then this waiver of profits is to be absolute.

APRIL 30TH, 1883.

Met pursuant to assignment.
Present: Same counsel as at last session.

Testimony for Defendants.

JOHN HAUCK, called by defendants, deposed as follows:

1 Ques. You are the same John Hauck that has previously testified and one of the parties defendant, are you?
Ans. Yes, sir.
2 Ques. Please state what experience you have had as a brewer and especially in pitching kegs?
314 Ans. Have been engaged as a brewer for about 30 years, and for about 20 years was engaged in pitching; working with the men; since then have been proprietor.
3 Ques. Since you have been proprietor, what, if anything, have you had to do with the work of pitching and other work about the brewery?
Ans. I regularly, once or twice a day, go around and examine everything and see how the work is done.
4 Ques. Who is the general manager and superintendent of your brewery, you or somebody else?
Ans. I am.
5 Ques. How many years did you pitch kegs by hand?
Ans. In all the business I have been engaged in, about 15 or 20 years.
6 Ques. What machine have you lately been using for pitching kegs?
Ans. Stromberg's machine.
7 Ques. How many men are ordinarily employed when pitching with this machine, including those who roll the kegs and tighten the hoops, and what is the number of kegs pitched per hour in ordinary practice?
Ans. From seven to eight men are employed; about one hundred kegs are pitched per hour.
8 Ques. Do you include in this number of men the engineer?
Ans. No, sir.
9 Ques. Is an engineer required?
Ans. Yes, sir.
315 10 Ques. How much do you have to pay an engineer as compared with the class of men who do the pitching?
Ans. Double wages—that is, we pay the engineer double what we pay men who do the pitching.
11 Ques. Do you have, in addition to the furnace in the pitching machine, a furnace to drive the engine which furnishes the motive power?
Ans. Yes, sir.
12 Ques. In pitching by hand how many kegs would seven or eight men pitch per hour?
Ans. Well, from sixty to eighty.

13 Ques. In which method of pitching are the best results obtained?

Counsel for complainant objects to the question if it is intended to attempt to show by this witness that there are no profits or benefits from pitching by the machine over the old method of pitching, as evidence of that nature is irrelevant and immaterial as the case now stands, in view of the waiver of profits which has been entered in this case by complainants, it having been decided by Judge Nixon in Goodyear Dental Vulcanite Co. *v.* Van Antwerp, 2 Banning & Arden's Patent Cases, 255, S. C.; 9 Official Gazette, 498, and in other cases, that an attempt to show that defendants made no profits by the use of the patented invention is "no answer to a claim for damages."

Ans. In hand pitching.

14 Ques. What is the difference?

Ans. The pitch stays better; also it purifies the pitch better than by machine.

316 15 Ques. In which way are the kegs used up the fastest?

Same objection by counsel for complainant as above.

Ans. By machine pitching.

16 Ques. What effect has the machine pitching upon the keg, in respect to warping or shrinking of the wood or burning of the bung-hole?

The objection above is continued throughout the deposition to questions like the foregoing.

Ans. It burns the bung-hole and warps and shrinks the wood of the keg.

17 Ques. Is any tightening of the hoops required after pitching on the machine?

Ans. Yes, sir.

18 Ques. When pitching by hand did you employ any extra help for the pitching, or was it done in the leisure time of men otherwise necessarily employed about the brewery?

Ans. It was done in the leisure time by the hands employed in the brewery.

19 Ques. What is the practice in this respect in other breweries, so far as you know?

Ans. It is done the same way by their own hands in leisure time.

20 Ques. Do you have a special engine to drive the fan, or is it driven by machinery placed in your brewery and used at times for other purposes?

Ans. I have a special engine at present; commenced this last year; prior to that used the engine employed for the other purposes of the brewery.

317 21 Ques. What, so far as you know, is the usual practice in breweries, to use a special engine or an engine that is there for other purposes?

Ans. If the pitching place is far from the general engine a special engine is necessary.

22 Ques. Where pitching machines are first put into a brewery is it, so far as you know, usually to be used in connection with the main engine or in connection with a special engine?

Objected to by counsel for complainant as immaterial and because it is not shown the witness knows anything about any general custom in the matter, if such exists.

Ans. At first with the main engine.

Cross-examination by Mr. BANNING:

23 X Ques. You still do your pitching by machine, do you not?

Ans. Yes, sir.

24 X Ques. In pitching your machine the hands who do the work are men that you have employed about the brewery, are they not?

Ans. Yes, sir.

25 X Q. The engineer that you have mentioned is the regular engineer who runs your engine, is he not?

Ans. No, sir.

26 X Q. I am speaking of the time when you had your machine connected with the engine that ran the brewery and not of the special engine which you now employ.

Ans. At that time it was the same engineer.

318 27 X Q. I will read you some questions and answers from a certified copy of the deposition of Philip Young, the foreman of the Philip Best Brewing Co., of Milwaukee, the largest brewery in the United States, which he gave in the case of Matthew Gottfried and others *vs.* Peter Schoefhoffen on the accounting before the master at Chicago, namely:

"Considering the saving of time, the saving in kegs, and all the other benefits that result from the use of the machine, about how much, in your opinion, is the new way of pitching better than the old way, expressed in dollars and cents?

Answer. About ten cents a keg.

Question. Is it that much more valuable than to do it by hand, in your opinion?

Answer. Yes, sir.

Question. That is, it will be a saving of that much?

Answer. Yes, sir.

Question. Please state about how much saving there would be in the case of large casks, in your opinion.

Answer. In large casks of twenty-five to thirty barrels, one dollar.

Ques. In the case of very large casks holding over thirty barrels, what would be your estimate?

Answer. Twenty or thirty cents more than in casks holding under thirty barrels.

Question. These figures you have given are based upon the experience which you have had as foreman of the Philip Best Brewing Co. and otherwise in pitching both ways?

Answer. Yes, sir."

319 This witness had stated in the first part of his deposition that he was familiar with pitching by the machine and with pitching in the old way by taking out the heads; you have given your opinion in your direct testimony, and I have read you the opinion of Mr. Young; please state how you would reconcile the two.

Mr. Parkinson objects to the foregoing question and the recitations therein as incompetent and irrelevant, and moves to strike the same from the record.

A. I cannot do so.

28 X Q. You have spoken about tightening the hoops when pitching with the machine; did you not always do this also when pitching in the old way?

Ans. Yes, sir; we always tightened the hoops when putting in the head when pitching in the old way.

JOHN HAUCK.

Recalled by Mr. PARKINSON:

29 X Q. Do you know the Philip Young referred to in cross-examination; if so, what do you know about him?

Ans. Yes, sir; I know the Philip Young referred to; he was a young man with not much experience when he made the statement which has been quoted.

30 X Q. What connection had he had at that time with the practical work of a brewery?

Ans. He had not much of a practice; he was foreman more in name than in practice.

31 X Q. Do you know whether he had been a practical workman in a brewery?

320 Ans. All that I heard at the time was that he was not a practical workman.

32 X Q. What was his education; how had his time been spent?

Ans. His education—can't say much about that; sometimes a man is very well educated, but has not much practice; he works here in Cincinnati as a brewer; he has been engaged in ordinary brewers' work; he was not much of an experienced man in stating prices for pitching—what it was worth; don't know whether he was engaged in pitching or not.

By Mr. BANNING:

33 X Q. Did Mr. Young work for you?

Ans. No, sir.

34 X Q. I will again quote from his deposition which was given February 26th, 1881, as follows, namely:

Question. Please state your name, age, residence, and occupation.

Answer. Philip Young; 36 years; Milwaukee; brewer.

Question. Please state how long you have been in the brewing business.

Answer. I have worked in it since I was a child; I worked in it

in different places in the old country, and in 1870 came to America and worked in New York six months, a year and a half in Cincinnati, and then I engaged with Philip Best and Co. as foreman; I stayed with them as foreman from 1872 to 1879; in 1879 I left
321 Milwaukee and went to Europe; the same year I came back and went into business for myself.

Question. In your capacity as foreman of the Philip Best Brewing Co. did you become familiar with the method of pitching kegs and casks by means of a pitching machine?

Answer. Yes, sir.

Question. Have you ever pitched kegs or casks in the old way, by taking out the head, before that?

Answer. Yes, sir.

Question. You are, then, familiar with both ways of pitching kegs or casks?

Answer. Yes, sir.

Again he says:

Question. State, as far as you can determine without investigation, the number of kegs that you would have to pitch while you were foreman of the Philip Best Brewing Co. a year in their business.

Answer. I should say more than 30,000 kegs and about 1,000 to 1,500 casks.

Can you state that any of the statements of Mr. Young which I have read you above from his deposition are untrue?

Mr. Parkinson makes same objection and same motion as after the other quotation.

Ans. I don't know that anything he has stated about his experience is untrue.

JOHN HAUCK.

Defendants now proposing to call Christian Moerlein, Emile Schmidt, C. W. Boss, Henry Schmidt, Henry Muhlhauser, Louis
322 Herancourt, and William Gerst, it is admitted by complainant that said Moerlein, Emile Schmidt, Boss, Henry Schmidt, and Muhlhauser are the same persons respectively who have heretofore testified in these causes; that said Gerst and Herancourt would testify that they are respectively foreman in the Moerlein and Herancourt breweries, of Cincinnati; that all said witnesses would testify substantially to the same effect, so far as the issues herein are concerned, as John Hauck in his first direct and cross-examination of this date, and that this admission shall have like effect as the depositions of said witnesses if they had so testified; all objections noted in the deposition of said Hauck to have like effect as to the evidence thus included in this stipulation.

It is admitted by complainant's counsel that, if called as a witness on the part of defendants, Leonard Schreibe would testify that the machine which he sold to Schmidt Bros., being Frederick Schmidt

and Henry Schmidt, was a second-hand machine that had previously been used in by Christian Moerhlein, and that this stipulation may have the same effect as if he had so testified.

Adjourned to a date to be hereafter assigned.

MAY 2D, 1883.

Counsel for defendants gave notice that their testimony was closed

MAY 4TH, 1883.

Counsel for complainants, by letter, applied for permission to take testimony in rebuttal by deposition in Chicago, Ills.

323 Mr. Parkinson, on behalf of defendants, objected—

1st. Because it does not appear, by statement or otherwise, what, if any, evidence in rebuttal it is desired to take in Chicago, or that there is any reason why any or all competent evidence may not as well be produced before the master in Cincinnati.

2d. Because it does not appear that the evidence proposed to be taken in Chicago is of a character competent or proper to be taken at this stage of the cause or relevant to any issues before the master.

3d. Because it does appear upon the record that defendants have taken no evidence other than in strict rebuttal of the affirmative evidence heretofore offered by complainant on the accounting, and that there is nothing therein which is the proper subject of rebuttal.

4th. Because defendants are entitled to information as to the character of evidence proposed to be taken before the making of the order asked for, in order to obtain a ruling of the master as to whether such evidence in rebuttal *and* relevant and competent, as well as to determine whether or not it is necessary to attend and cross-examine.

5th. Because the effect of the order asked is to unnecessarily delay proceedings herein and swell the record with improper testimony and to put the defendants to great and needless expense.

324 6th. Because the record already before the master affords a strong affirmative presumption that the evidence proposed to be taken is not and cannot be evidence in rebuttal or in anywise competent and relevant, and is not and cannot be to any effect concerning which all and necessary proper evidence can be had within the district and before the master.

See 2 Daniels' Ch. Prac., p. 1196–'7.

In the order of the presentation of testimony, the complainant is now entitled to take testimony in rebuttal. It does not appear by the record that no evidence can be introduced competent in rebuttal, but, on the contrary, several examples might be mentioned of evidence clearly competent at this stage of the proceedings. Besides, it seems to me that this is not the time to pass upon the question of the competency of testimony; that that question properly arises after the deposition has been taken—when it is offered in evidence. The consideration may be mentioned, also, that if I should refuse the application and the court should hold that I had erred in so doing, it would necessitate sending the whole case back to a master,

while if I permitted the deposition to be taken and then when offered excluded it, an error in the latter particular could probably be cured by the court itself examining the deposition without another reference.

The time within which to take the testimony will be made short, and thus any considerable delay will be avoided.

325 Therefore I grant the complainant permission to take rebutting evidence by deposition, according to the acts of Congress in that behalf, in Chicago, Ills., within twenty days from date upon five days' notice to counsel for defendants, reserving all questions as to the admissibility and competency of testimony taken until the offering of the deposition in evidence.

J. C. HARPER,
Special Master.

To which ruling counsel for defendants except, and give notice of a motion to be made to the court on Saturday morning, May 12th, 1883, to set aside the order of the master above.

(Motion overruled by Judge Sage.)

MAY 17TH, 1883.

Upon application of counsel for complainant for a short extension of time in which to complete complainant's testimony in rebuttal, notice thereof having been communicated by the master to counsel for defendants, and upon good cause shown complainant is granted five days in addition to the time already granted in which to take testimony in rebuttal at the place and under the limitations prescribed in the previous order herein.

JUNE 4TH, 1883.

Received and opened the depositions of Anton Schwerle and 13 others, taken in Chicago, on behalf of complainant.

JUNE 12TH, 1883.

Now come the defendants herein and object to each and every deposition taken in behalf of complainant in the above-

326 entitled causes or any of them since the order of the master allowing complainants to take rebutting testimony, and move the master to strike the same from the record for the following reasons, to wit:

First. Because the same are not rebutting evidence.

Second. Because the same are not such evidence as is authorized by order of the master under which they purport to be taken.

Third. Because the same are taken altogether without authority.

Fourth. Because the same are irrelevant and incompetent.

Friday, June 15th, set for hearing said motion.

JUNE 15TH, 1883.

Mr. Fishback and Mr. Harper sitting together.

Present: Mess. Ephraim Banning and Thos. A. Banning, for complainants, and R. H. Parkinson, for defendants.

Counsel for complainant offers in evidence certified copy of assignment of John F. T. Holbeck to Matthew Gottfried under letters

patent No. 42580, sued on in this cause, dated May 1st, 1879; also letter from the defendants' counsel, Mess. Parkinson and Parkinson, to ourselves, dated January 21st, 1882; also letter from Banning and Banning to Mess. Wood and Boyd, dated December 5th, 1882. Mr. Ephraim Banning was granted leave to prepare and send statement to be entered on the record concerning the publication in a German newspaper as to these cases.

327 The questions arising upon Mr. Parkinson's objections and notion to strike from the record the depositions taken in Chicago by complainant were argued by counsel and submitted.

JUNE 16TH, 1883.

Counsel for defendants asked leave to file further objections and motion as to depositions taken in Chicago; and, on consideration thereof, the same is granted; to which ruling counsel for complainant excepts.

Now come the defendants herein and object successively, severally, and specifically to each of the following questions and answers in the depositions offered herein in behalf of complainant, to wit: Each and every question and answer in the deposition of Anton Schuerle, Clements W. Uhlman, Edward Thorman, Emil Wilke, August Loeffel, August Olinger, William Roessler, William Koehle, William J. Seib, Ferdinand Steiner, Joseph Meier, Casimer Thienger, George Stupp, and Frank Walters; also severally and specifically to each and every clause and statement therein contained relating to each and every of the following points, viz:

1st. The witness-' estimate of the worth, value, saving, or advantage of machine pitching.

2d. The expense of hand pitching.

3d. The comparative durability of the pitch as applied by that method.

4th. The comparative effect on the durability of the keg or cask.

5th. The comparative quantity of pitch used.

6th. The comparative time occupied in pitching.

328 7th. The kind of labor employed.

8th. The number of laborers employed.

9th. The wages paid such laborers.

10th. The comparative injury to the keg or cask by different methods of pitching; and assign for cause of said objection, separately and specifically, to each and every of said questions and answers and each and every of said clauses and statements the following:

First. Because the same are not rebutting evidence.

Second. Because the same are not such evidence as is authorized by the order of the master under which they purport to be taken.

Third. Because the same are taken altogether without authority.

Fourth. Because the same are irrelevant and incompetent.

Fifth. That the same is merely accumulative upon evidence taken by complainants in chief.

Sixth. That the same is altogether speculative.

Wherefore, for said causes specified, defendants move the master, successively and specifically as to each and every of said questions,

answers, clauses, and statements, to strike the same from the files and exclude the same from the record herein.

PARKINSON & PARKINSON,
For Def'ts.

Master's Opinion.

329 The complainant was the only witness produced in his behalf in chief. He went very fully into a comparison of the merits of machine and hand pitching. He stated that by the former method greater safety and rapidity are secured, the kegs last much longer, the heads, staves, and hoops are never broken, nor are the kegs burned or injured by fire, which is the case in hand pitching, and less pitch is used in machine pitching and its quality is greatly improved. (Ans. to Q. 3, Gottfried's test.)

Complainant thereupon rested, but before he did so his counsel were notified in the presence of the master by defendants' counsel that they should insist upon complainant being confined thereafter strictly to rebutting evidence.

John Hauck, a defendant, was then called on behalf of the defense, and testified that the best results are obtained by hand pitching, because the pitch stays better and is more thoroughly purified; that machine pitching uses up the kegs faster than by hand, and that in machine pitching the wood is burnt and warped. His testimony also differed widely from Gottfried's as to the relative rapidity of pitching by the two methods. Such substantially was his testimony, and it being stipulated by counsel that certain other persons would testify to the same effect defendants rested. Thereupon complainant was granted leave to take rebutting evidence by deposition in Chicago. Under that order the deposition of fourteen witnesses were taken. With variations as to details they all
330 testified substantially that the best results were obtained by pitching on complainant's machine; that the work is accomplished with much greater rapidity and is of a better quality and of greater durability; that it does not burn the wood and does not require so much pitch.

Counsel for defendants object to the reception of this testimony as not being rebutting evidence.

It will be seen that defendants' testimony was confined to negativeing complainant's testimony as to the superiority of machine pitching, and that the testimony now sought to be introduced by complainant is merely a reaffirmation of his testimony-in-chief upon that point. I had supposed that the proposition that such testimony was not rebutting evidence was too well settled to admit of serious controversy, but Mr. Banning has urged the correctness of their position with so much earnestness and has displayed such research in his investigation of the question (his memoranda of argument covering 32 type-writer pages) that I have carefully re-examined the subject and will state the result.

Mr. Banning urged the following propositions:

1st. That this being an application to exclude material testimony any doubt as to its admissibility must be resolved in favor of letting it in.

331 2d. That the objection being a general one to each deposition, if any part of any deposition is competent, the whole must be admitted.

3d. That, although defendant's testimony may be only a direct denial of complainant's, complainant may call other witnesses, in further demonstration of his original case, in rebuttal.

4th. Because it contradicts the new argument, namely, that the old way of pitching is better than the patented way.

5th. Because it tends to impeach and discredit defendant's evidence and make its truth less probable.

6th. As restoring the credit of complainant as a witness by corroberating him.

7th. That complainant might prove simply a *prima facie* case and then reserve the balance of his evidence upon his affirmative case until rebuttal.

8th. Material evidence will be admitted unless a party can show that its admission at that stage will unduly prejudice him.

9th. The master should never reject material evidence where its rejection might cause re-reference to admit and consider it.

To support these propositions counsel cited a great number of authorities. Some of them are statutory modifications of the common law, many of them have no bearing upon the question now under consideration, and others support the view I take of it; but I
332 deem a critical review of all those authorities unnecessary.

The rules as to burden of proof and the order of introducing testimony are the same in equity as at law. (1 Daniels' Chan. Pr., 4th ed., 850, & notes; Wright *v.* Pusey, 31 Pa. St., 387.)

The complainant in this case is seeking to recover actual damages of an unliquidated amount, and the burden of proof is upon him to make out his case. (1 Taylor on Evidence, § 353.)

The complainant does not appeal to the discretion of the master to admit this testimony out of its order, but insists that it is taken in regular order, and that he has a legal right to introduce it at this stage of the case. The question is to be determined as any other question of legal right. The parties are entitled to the master's best judgment, unaffected by questions of possibilities of error therein. In other words, where, as in this case, I am clear in my opinion as to the rights of the parties I should not hesitate to act upon it because that opinion may be erroneous; and as to the second claim of complainant's counsel I regard the question presented as though the depositions were being read and an objection was interposed to each several question and answer; but defendants have been allowed to file another motion, which is certainly specific enough.

The third and seventh propositions of counsel present the nub of the controversy. It is broadly claimed that a party may in-
333 troduce merely enough testimony to make out a *prima facie* case and then reserve the body of his testimony as to his affirmative case until after defendants have closed. In other words, that, even as to the very matter in issue, a party having ten witnesses to establish may introduce one and rest, and if his adversary contradict his witness he may, by way of rebuttal, call the nine

others. It is believed that such a proposition involves serious consequences and is at variance with all proper ideas of judicial procedure.

"Regularly, the party to begin must exhaust all the testimony in support of his side of the issue before the opposite party is heard, and he can in strictness introduce afterward no evidence save in reply. The judge may, however, allow a departure from this rule, but the party cannot claim that he shall do so as a matter of right."

3 Waite's Practice, p. 124, and cases cited.

"It is tolerably clear that where there is only one issue, the — of proving which lies on the plaintiff, he must put forth all his evidence in the first instance and cannot rely upon a *prima facie* case, and after that has been shaken by the defendants call other evidence to confirm it."

Taylor on Evidence, § 358, *et seq.*, and cases cited.
Jacobs *vs.* Tarleton, 11 Q. B., 421.

"There can be no dispute as to the general rule of evidence.
334 The party upon whom the affirmative of an issue devolves is bound to give all his evidence in support of the issue in the first instance, and he can only give such evidence in reply as tends to answer the new matter introduced by his adversary."

Graham *vs.* Davis, 4 Ohio St., 362, 381; Ranney, J.

This rule has been embodied in our code of civil procedure, governing cases both at law and in equity, and, while, of course, it in no way controls proceedings in chancery in the Federal courts, contains an excellent statement of the well-recognized common-law rule upon the subject.

"The party who would be defeated if no evidence were offered on either side must first produce his evidence, and the adverse party must then produce his evidence. The parties shall then be confined to rebutting evidence, unless the court, for good reasons, in the furtherance of justice, permit them to offer evidence in their original case."

§ 5190 Revised Statutes of Ohio.

(The decision in 4 Ohio St. above related to the law prior to the adoption of the code.)

"After the defendant has rested the plaintiff may introduce evidence in denial or by way of avoidance of the evidence given by defendant, but, as has been already shown, he cannot, as a matter of right, introduce further evidence in support of the case originally made by him."

335 3 Waite's Practice, p. 125.
Ford *v.* Niles, 1 Hill (N. Y.), 300.

"If the defendant has given testimony in his defence respecting any new matter the plaintiff has a right to give new evidence, which is called rebutting evidence."

3 Bouvier's Institutes, p. 469.

"After the defendant has deduced his evidence the plaintiff's counsel at once proceeds without any observations to tender any evidence he may have in reply; but such evidence must be confined by negativing specific acts sworn to by the defendant's witnesses, the proof of which he could not be expected to have anticipated, or to answer the defendant's case where he has not attempted to negative that case in the first instance. He cannot be allowed to adduce evidence which he might have given in support of his own case in the first instance."

Starke on Evidence, 608 (10th ed.).

Quotations of this kind could be multiplied almost indefinitely, but I will not further encumber the record beyond referring to the following authorities, which also support the quotations made:

Gilpins *vs.* Consequa, Peters' C. C. Rep., 85.
Evans *vs.* Eaton *Ib.*, 322.
Johnston *vs.* Jones, 1 Black., 710, 226.
Browne *vs.* Murray Ry. & M., 254.
Scott *vs.* Woodward, 2 McCord, (S. C.), 161.
Wharton on Evidence, § 571.
336 2 Stephens' Nisi Prius, p-. 1802–'3.
Phillips on Evidence, 843, 817, 819.

"If every party had a right to introduce evidence at any stage at his own election, without reference to the stage of the trial in which it is offered, it is obvious that the proceedings of the court would often be greatly embarrassed, the purposes of justice be obstructed, and parties themselves be surprised by evidence destructive of their rights which they could not have foreseen or in any manner have guarded against."

Justice Story in P. & T. R. R. Co. *vs.* Simpson, 14 Peters, 463.

As to the fourth proposition of compl'ts' counsel, it is sufficient to say that a statement that hand pitching is better than machine pitching is but another method of denying that the latter is the better method so far as this case is concerned.

Graham *vs.* Davis, 4 Ohio St., 362, 380–'1.

It is also urged that the testimony is rebuttal, on the ground that it tends to discredit defendant's witnesses and to sustain the credibility of complainant as a witness.

Little or no testimony is admitted in a cause but what in some degree reflects on the credibility of the witnesses who have testified in it. If the proposition advanced by counsel is correct, it does away altogether with the rule as to the order of the introduction of
337 testimony, and there would be no end to trial; but there is no such exception to the rule as is claimed. "A mere conflict in testimony will not justify introduction of evidence thus (by rebutting evidence) to back up the witnesses thus conflicting."

(Wharton on Evidence, § 569, & cases cited.

In the recent case of Teaton *vs.* Chapman, 65 Maine, 126, which was an action for slander, one Leach was called by pl'ff and testified

to the speaking of the actionable words at a conversation between def't, one Winslow, and himself. Pl'ff rested. Def't testified, contradicting Leach. Pl'ff thereupon called Winslow for two reasons—to sustain Leach and contradict def't. Held to be cumulative and not rebutting, and therefore not admissable.

What I have said relates only to the question before me, where the testimony is upon the direct issue between the parties; as to collateral facts I apprehend another rule prevails.

I think, therefore, that the testimony introduced is evidence in chief and not in rebuttal, and, under the order granted, defendant's counsel were justified in not attending and cross-examining, and that they would be prejudiced by permitting the testimony to go in without preserving their right of cross-examination; but com-

338 plainant's counsel having acted in good faith in the belief that they were entitled to take the testimony in rebuttal, their error should not deprive complainant of its benefit, the testimony being undoubtedly material. It rests in the master's discretion to permit compl't's case-in-chief to be reopened and this testimony to go in out of its order (Rule 77, 14 Peters, 463), and I believe it will be in furtherance of justice to do so.

The masters concur in sustaining the objections of defendants to the depositions taken in Chicago by deposition as to all matters contained in said depositions which were gone into in chief by complainant, but they order that complainant's evidence-in-chief be reopened and that said depositions be received and considered as though taken in chief, provided defendants are afforded by complainant an opportunity to fully cross-examine the witnesses whose depositions are so admitted; and it is further ordered that defendants have leave to take testimony in reply, counsel for defendants to notify the master in the Cincinnati cases by Monday next whether defendants will cross-examine or take further testimony as they are permitted; otherwise the hearing of these causes to proceed at Indianapolis, Tuesday, June 19th, 1883, as agreed upon.

Entered June 20th as of June 16th.

J. C. HARPER,
Special Master.

339 Counsel for complainant excepts to so much of the above ruling as sustains defendants' objections and grants def'ts' right of cross-examination and taking testimony in reply; whereupon defendants except to so much of said ruling as orders that complainant's evidence-in-chief be reopened, and that said depositions be received and considered as though taken in chief, for reasons, among others, as follows:

First. Because the said depositions and the several questions, answers, and statements therein, not being authorized by the order of the master at the time they were taken, are not legal evidence, and cannot be made so by any retroactive order of the master.

Second. Because the same, being outside the order in force at the time and taken in the absence of defendants, are altogether *ex parte*

and without any legal effect, and cannot be made competent by any order of the master subsequent to the taking of them.

Third. Because the order of the master in force at the time said depositions were taken having only authorized rebutting evidence, defendants were entitled to determine whether to attend and to regulate their proceedings in all respects with reference to such evidence only, and the effect of the present order is to enable complainants to take their direct evidence *ex parte*, and at a time when the same was altogether unauthorized.

340 Fourth. Because defendants are entitled to be present as well at the direct as at the cross examination of all witnesses called in behalf of complainants, and to be advised of the time the same are examined — to what effect the evidence is to be received.

Fifth. Because no surprise or other cause for reopening the cause appears, but, on the contrary, the said evidence is merely cumulative on complainants' evidence-in-chief, and all accessible before the closing of his affirmative case.

Sixth. Because complainants had specific notice from defendants before complainants' affirmative case was announced as closed that defendants would insist upon complainants being strictly held to rebutting evidence in reply.

Seventh. Because the effect of said order is to unnecessarily delay said causes and increase the expense thereof.

Eighth. Because said evidence is irrelative and incompetent.

And without waiving the said objections or exceptions or any part thereof, but intending to insist thereon before the master and the court under protest, counsel for defendants requires the production of the said witnesses for cross-examination.

June 18th, 1883.—Received from counsel for complainant the following statement of Mr. Ephraim Banning, which he was

341 given leave to prepare and send to the master:

As a personal explanation, and not because I consider it as having the least bearing on any of the questions involved in this accounting, I desire to show the master's and defendants' counsel a copy of our letter which accompanied the list of the defendants' names, with amounts opposite each name, that we sent to Col. Weitzel at the time we arranged to have him aid us in negotiating for a general settlement with the defendants; and, at the suggestion of defendants' counsel, I now offer such letter in evidence, and on my own account make the following statement:

More than a week intervened the announcing of Judge Baxter's decision and the entry of decrees in these cases. During that time I consulted with Messrs. Wood and Boyd, of Cincinnati (as friends and not as counsel, they have never been in any way associated with us as counsel), in reference to the advisability of attempting to make a general compromise, and of engaging some good man, capable of talking German, to negotiate terms with the brewers, etc. We considered this step more necessary than would otherwise have been the case from the fact that defendants' counsel always seemed bitterly

opposed to any settlement, so that we could never talk with them satisfactorily on the subject. Mr. Wood suggested Col. Weitzel
342 as a proper man for us to engage, saying that he was thoroughly conversant with the German language, well acquainted with the brewers, practical, and honorable, and withal a man of good position and reputation; he stated that he was a member of the Legislature and had been collector or deputy collector of internal revenue at Cincinnati. Col. Weitzel seeming in every way to be a proper and suitable man for the purpose desired, I asked to be introduced to him, and Mr. Wood arranged to have us meet each other the days the decrees were entered. This meeting took place at the "Burnet House," at which time the matter was talked over very carefully between Mr. Wood, Col. Weitzel, and myself; and it was finally arranged that Col. Weitzel should see the brewers and endeavor to bring about a general compromise or settlement, and that on my return I should send him a list of the defendants' names, with amounts at which they should settle, if settling individually and on the general basis that had been acted on in settlement elsewhere. I did this in the letter now produced; this letter should be read in the light of my previous understanding with Col. Weitzel, to wit, that he was to endeavor to bring about a general compromise or settlement on a basis that would be fair and right to all parties.

343 I only had one conversation with Col. Weitzel, and nothing was said in it or in subsequent letters about newspaper publications or anything of that kind; and I never knew or heard of the publication that has been heretofore produced in this accounting until my brother told me of it after the taking of Mr. Gottfried's deposition. I can say positively that we never had anything to do with such publication, and that it was never, directly or indirectly, authorized by the complainant or his counsel; and I do not believe that it was ever caused or authorized by Col. Weitzel.

I think it proper to add that on the same day that I had the interview with Col. Weitzel I also had a conversation with Mr. Parkinson on the subject of settlement, and then and in subsequent letters to him endeavored to bring about an amicable compromise; but I found him then, as previously, disposed to look on our client's claim as without merit, and he has always seemed to consider that no settlement should be advised or encouraged from his side on any other basis than that of saving costs; in other words, he has never seemed to consider, either before or after Judge Baxter's decision, that our client had any rights that his clients should respect or pay for.

JUNE 19TH, 1883.

Counsel for defendants requested that the master attend in person at the cross-examination of witnesses in Chicago.

Complainant's counsel applied by letter to have the order
344 entered on Saturday amended by requiring defendants to cross-examine witnesses at Chicago upon five days' — from complainant's counsel, by limiting defendants' evidence hereafter to

reply to Chicago depositions, and by fixing the time within which such evidence may be taken.

After consideration of said application and the objection of defendants' counsel thereto I have to say—

(1.) In view of the previous practice herein of making appointments with reference to convenience of counsel on both sides, and of the knowledge by compl't's counsel and by the master of Mr. Parkinson's engagement in the East for the next two or three weeks, I cannot now require defendants to attend on five days' notice, but an arrangement for an early day will be made. The cross-examination will take place in Chicago.

(2.) I cannot at this time prescribe the limits of defendants' testimony in reply.

(3.) Defendants will be granted twenty days after conclusion of cross-examination of Chicago witnesses in which to take testimony in reply.

JUNE 23D, 1883.

Counsel for complainant request that the master attend in person at the cross-examination of witnesses in Chicago; and, in order to remove every possible ground of complaint on the part of defendants' counsel growing out of his not having attended at the taking
345 of depositions in Chicago on the 23d and 24th of last month, counsel for complainant also consent and offer to withdraw all the depositions then taken and to have the witnesses examined *de novo* whenever the master and defendants' counsel come to Chicago to attend the closing of complainant's proofs, if the defendants' counsel so desire. This withdrawal to take effect on the retaking of said depositions.

MONDAY, *July 2d*, '83.

Taking of testimony in Chicago set for Friday, July 13th, 1883, and counsel notified thereof.

SATURDAY, *July 7th*, 1883.

By agreement of counsel time for taking testimony in Chicago changed to Monday, July 9th, 1883, at 9 o'clock a. m., at office of complainant's counsel in said city.

346 Circuit Court of the United States, District of Indiana. In Equity.

MATTHEW GOTTFRIED *vs.* THE CRESCENT BREWING CO.

Counsel for complainant asks defendant's counsel if defendant has not prepared a statement for use before the master showing the number of kegs treated for pitching by the use of the machine found by the court to be an infringement of the patent sued on, and if he will not produce such statement.

Mr. Parkinson, on behalf of defendant, objects to the request and to this line of examination: 1st, as irrelevant and incompetent; 2d, because no foundation has been laid; 3d, because, in view of the circumstances of this case and the facts as to the sale of the patented machine by complainant and his assignors and licensees, the dam-

ages sustained by the complainant by reason of the purchase of the machine of unauthorized parties rather than authorized parties, or the license fee established for the sale of the machine, fix the extreme limit of the damages herein and the profits, if any, that may have been made by the defendant by reason of the purchase from an
347 unauthorized party rather than an authorized manufacturer, the extreme limit of the profits recoverable herein, and notifies complainant that he shall ask to have taxed against complainant all costs incurred in the pursuit of the inquiry indicated by the request above, or any inquiry not directly pertinent to the measure of recovery herein mentioned.

Whereupon, without prejudice to the above objection, it is admitted by counsel, respectively, that it may be assumed by the master for the purposes of this case that defendant pitched or heated for pitching on the machine held to be an infringement, being one machine, from the date to which the witness Vail, in his deposition in the case of the same complainant against Rachel S. Gaff, administratrix, etc., *et al.*, pending in said court, has brought down the report to the expiration of the patent sued on, being the period not covered in the report of the said witness Vail, eleven thousand seven hundred and ten (11,710) barrels and kegs; no casks were pitched on the machine. The machine used was the same one used by J. W. Gaff and Co., the predecessors of this defendant, the Crescent Brewing Company.

Dated February 2d, 1883.

BANNING AND BANNING,
Sol'rs for Complainant.
PARKINSON AND PARKINSON,
For Def't.

348 Circuit Court of the United States, District of Indiana. In Equity.

MATTHEW GOTTFRIED *vs.* EUGENE HACK *et al.*

Counsel for complainant asks defendants' counsel if defendants have not prepared a statement for use before the master showing the number of kegs heated for pitching by the use of the machine found by the court to be an infringement of the patent sued on, and if he will not produce such statement.

Mr. Parkinson, on behalf of defendants, objects to the request and to this line of examination, 1st, as irrelevant and incompetent; 2d, because no foundation has been laid; 3d, because, in view of the circumstances of this case and the facts as to the sale of the patented machine by complainant and his assignors and licensees, the damages sustained by the complainant by reason of the purchase of the machine of unauthorized parties rather than authorized parties, or the license fee established for the sale of the machine, fix the extreme limit of the damages herein and the profits, if any, that may have been made by the defendants by reason of the purchase
349 from an unauthorized rather than an authorized manufacturer, the extreme limit of the profits recoverable herein, and notifies complainant that he shall ask to have taxed against com-

plainant all costs incurred in the pursuit of the inquiry indicated by the request above, or any inquiry not directly pertinent to the measure of recovery herein mentioned.

Whereupon, without prejudice to the above objection, it is admitted by counsel, respectively, that it may be assumed by the master for the purposes of this case that defendants pitched or heated for pitching on the machine held to be an infringement, being one machine, from the commencement of its use until the expiration of the patent, three thousand (3,000) kegs and two hundred and fifty (250) casks.

Dated February 2d, 1883.

BANNING AND BANNING.
PARKINSON AND PARKINSON.

350 Circuit Court of the United States, District of Indiana. In Equity.

MATTHEW GOTTFRIED
vs.
THE CRESCENT BREWING COMPANY and Other Cases.

CHICAGO, *July 9th*, 1883.

Witnesses heretofore examined in chief on the part of complainant produced to allow defendants to cross-examine them, in pursuance of the request of defendants' counsel.

THOMAS BANNING: I offer in evidence Circular A, which reads as follows, being one of the circulars identified by the witness, Herman Reutti, in giving his deposition in the old case:

"*Circular.*

HAMILTON, OHIO, *Oct. 17th*, 1873.

To Bartholomae & Leicht, Chicago, Ills.:

Letters patent for an improvement in apparatus for firing and pitching barrels and casks for beer and other uses were granted by the United States to Herman Reutti and Philip Winklehaus,
351 dated April 19th, 1870, of which the undersigned are sole proprietors. This has proven to be the only successful device for the purpose for which it was intended, and is already in extensive use. Its efficiency results from its capability of utilizing the entire caloric generated by the fuel used in its furnace and from the facility and dispatch of work.

This circular is published to notify you and all whom it may concern that we shall assert our legal rights under our patent by suits for infringements; and we respectfully request all persons now using the same to promptly make settlement with us.

Our established royalty for the use of the patented apparatus for brewers is as follows:

Brewers selling 500 barrels of beer or less per month will be charged $50 per year, and for every additional 500 barrels or fractional part thereof $50; a brewer selling 5,000 barrels per month

$500 per annum. To persons desiring a continuous license liberal deductions will be made.

Claims of the Patent.

A closed charcoal or coke furnace and blast air drives the proceeds of combustion through one or more nozzles into the bung-holes of the casks or kegs, and the mode of firing or pitching is substantially set forth in the letters patent No. 102,156.

HERMAN REUTTI.
PETER SCHWAB.
F. VANDEVEER."

352 Mr. PARKINSON: To which counsel for defendants objects as irrelevant and incompetent; also as not being identified, and further objects to the recitation to the effect that it is the circular referred to by Herman Reutti on the ground that it has not been so shown.

Master in chancery, Mr. HARPER: The master, without ruling upon the objection, allows the circular to be received subject to the objection.

Mr. BANNING: I also offer in evidence the circular marked Circular B, which reads as follows:

"UNITED STATES BREWERS' ASSOCIATION,
OFFICE OF THE EXECUTIVE, 83 LIBERTY STREET,
NEW YORK, *October 20th*, 1880.

To local associations and to members individually:

At your last convention the opinion was there decided- expressed that the executive of our association ought to take action for the purpose of combining the interests of the trade for the purpose of resisting claims for patent rights in appliances and processes now in common use by the brewers, and which claims have occasioned numerous vexatious lawsuits.

Your convention appointed a committee of three of its members as an advisory committee to receive communications from
353 litigants in patent suits and to select a case of the most importance and affecting the greatest number for the purpose of combining the interests involved in a test case.

The advisory committee, having taken preliminary steps to gather information, were astonished at the number of suits commenced against brewers, the exorbitant claims made, and the trifling grounds upon which they were founded.

After due deliberation, your committee arrived at the conclusion that the most suits were those commenced in the matter of the Gottfried pitching machine, and they believed that a test case which would effectually settle such claims might — arranged among the very many suits now pending. Your committee advised with the attorneys engaged in various cases. A consultation was held among the attorneys, and the result was a strong opinion expressed that if a proper case be selected and eminent patent counselors engaged such suits would be decided against the patent claims.

Your committee, having no power to expend the funds of your association for such a purpose, sought the counsel and advice of your executive. Accordingly, a meeting of the executive, board of trustees, and agitation committee was held in New York on Wednesday, October 13th, 1880, at which the following resolution was adopted:

354 Resolved, The advisory committee be requested and is hereby authorized to address a circular to all lager beer brewers informing them of the danger that threatens the trade from the prosecution of suits against them for the alleged infringement of a patent on the use of a cask-pitching machine, and to ask from them a contribution amounting to one-half cent per barrel on their last year's operations for the purpose of raising a special fund to be used in defending a test case, and for once bringing the same before the Supreme Court of the United States: Providing, That any part of such fund not used for such purpose shall be returned to the contributor *pro rata;* the amount to be contributed within twenty days from the date of this circular; checks to be made payable to the treasurer, Jacob Ahler, Esq., and addressed to the secretary of the United States Brewers' Association, 83 Liberty street, New York city, New York.

WILLIAM A. MILES,
JOHN C. G. HUPFEL,
GEORGE EHRET,
Advisory Committee.

The following report, indicating the necessity of immediate and decided action, is presented to the trade with an urgent demand for serious attention. The positive information in possession of the advisory committee is certainly alarming.

355 If there is not a sufficient response to this appeal a due report will be made of the same, and your advisory committee will ask for its discharge, having fulfilled its obligations.

By order the executive, board of trustees, and agitation committee.
ROBERT PORTNER, *President.*

RICHARD KATZENMAYER,
Secretary, Number 83 Liberty Street, New York."

Mr. PARKINSON: To which counsel for defendants objects as irrelevant and incompetent.

Master, without ruling upon the objection, allows the circular to be received subject to the objection.

Mr. BANNING: To remove every possible ground of objection to the depositions taken by the complainant on the 23rd and 24th of May by reason of the defendants' counsel not having attended at the taking thereof, we have offered and now do offer to withdraw such depositions, and consent that the witnesses may be examined *de novo* if the defendants' counsel so desire, and we now ask the defendants' counsel for an answer to this offer.

Mr. PARKINSON: Defendants' counsel states that while he
356 does not ask to have the direct examination of the witnesses retaken merely as an accommodation to him or to the parties he represents, he should feel obliged to insist upon the objection he has already entered to those depositions and shall insist that the depositions are altogether illegal and inoperative on the ground of their having been taken originally without authority, and that if complainants deem it material to obviate the objection entered so far as it rests upon this ground, he wishes it distinctly understood that without any desire to make any unnecessary delay or trouble he feels it his duty in behalf of his clients to insist strictly upon all his rights under said objection.

Mr. BANNING: In view of this we are willing that the depositions shall be taken *de novo*.

William J. Seib.

WILLIAM J. SEIB, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

357 1 Q. State your name, residence, and occupation.

A. William J. Seib; I live 22 South Park avenue, Chicago, Illinois, and I am a brewer.

2 Q. With whom are you now engaged?

A. Conrad Seipp Brewing Company.

3 Q. What is your position in that company?

A. I am the foreman there.

4 Q. That is the largest brewery west of New York outside of Milwaukee?

A. Yes, sir; but I could not say for sure.

5 Q. What is your production of beer a year?

A. We sell about a hundred and sixty thousand barrels of beer a year.

6 Q. You say you are foreman?

A. Yes, sir.

7 Q. What is your salary?

A. Five thousand dollars a year.

8 Q. How long have you been with the Conrad Seipp Brewing Company?

A. The 22d of last May I was there a year.

9 Q. How long have you been in the brewing business?

A. The next Sunday after Easter I was thirty-one years in the brewing business.

10 Q. How many years have you been in this country?

A. In 1854, on the 3d day of August, I came to this country.

11 Q. Have you ever had any experience in pitching kegs and casks?

358 A. Yes, sir.

12 Q. For how many years?

A. Ever since I was in the brewing business.

13 Q. Did you ever pitch them in the old way?

A. Yes, sir.

14 Q. How is that done?

A. You take the heads out of the kegs; then we had some hot pitch in a convenient place and put a red-hot iron in the kegs and burned it that way.

15 Q. Were casks pitched in that way, too?

A. Yes, sir; the same way.

16 Q. Have you ever pitched with the machine?

A. Yes, sir.

17 Q. Are you acquainted with the Gottfried and Holbeck pitching machine, and have you ever used it?

A. Yes, sir.

18 Q. State in which way of pitching you get the best results.

A. The best results are from the new method; the machine pitching.

19 Q. Explain your reasons for saying you get the best results by pitching with the machine.

A. In the first place you get the old pitch in the cask and you melt it more evenly with the machine, where in the old way you only got the pitch on the top, as the heat goes up, and with the machine you get it equal and better and smoother.

20 Q. In which way will you pitch the fastest?

A. The new method.

359 21 Q. How much faster?

A. Well, last Thursday, I pitched eight hundred kegs with six men, and if I had the old method I would do very well if I can make two hundred.

22 Q. In which way is the most pitch used?

A. Of course, in the old way. The new method, sometimes you do not need any pitch at all, but simply heat up the pitch already in; that was when the new method first came in.

23 Q. In which way are the kegs and casks used up the fastest?

A. In the old way, because there was a foreman in Bartholomae and Leicht's, and they had some old casks, and I knew they could not repitch them any more by the old method, because the head has a groove, and in case you burn this the keg will not be tight; this must be tight; these casks could not be used if they were loose. We have got some there at old man Seipp's that we could not pitch at all in the old way.

24 Q. But you can pitch all such casks in the new way?

(Objected to as leading.)

A. Yes, sir.

25 Q. How much longer will kegs and casks last for use in the brewery when pitched by the machine over the time they can be used when pitched by hand?

A. My estimate—I can say, at least, three times longer; and
360 in these big casks I can actually say there is no limit. For the last ten years we could not use some of those barrels any more, if we had the old way.

26 Q. State whether there is any difference in the qualifications of the men needed to pitch in the old way over those in the new way.

A. Of course, because in the old way you must have some practical men to put the heads in the casks again, but in the new method you do not put the bottom out, but fire them up and you can learn a man that in five or ten minutes.

27 Q. When pitching was done in the old way was a knowledge of how to pitch kegs and casks a requirement or qualification of the men that was insisted upon in hiring them in business?

(Objected to as leading.)

A. Of course, you generally required coopers for that purpose; always men who understood entirely the business. Where I have been in the business you always have some of the learned brewers to learn the cooper's and brewer's trade besides, and these men could do all this kind of work; they were used to it.

28 Q. State how much the Gottfried and Holbeck invention alone is worth to any brewer who uses it in the usual and ordinary way in money, if anything, per keg and cask over the old way of pitching.

361 (Objected to as speculative and as otherwise incompetent and irrelevant.)

A. I stated the last time and I state again that I calculate from thirty to thirty-five cents a keg a year for two pitchings, and for a cask that is about four or five dollars—say five dollars—each pitching. This answer includes waste and wear and tear and everything.

29 Q. In making this answer have you considered the pipe leading from the furnace to the cask as stationery or removable, or does that make any difference?

A. Well, I stated the last time that I would prefer a stationary pipe to a removable one.

30 Q. In pitching by hand where does the work have to be done?

A. Outside; you can do it outside or inside. When under the roof you must have an iron roof, so that the buildings and everything will stand and be safe from fire.

31 Q. Did you ever know of casks being burned up in pitching by the old way?

A. Of course; I have seen it many times.

32 Q. Did you ever know of any accidents or injuries to the men in pitching by the old way?

A. Yes, sir; I have been in an accident where some of the men burned themselves very bad. I was not burned, but the other parties burned themselves very bad.

MASTER:

33 Q. You were present?

A. Yes, sir.

362 34 Q. Did you ever see an accident happen in pitching by the machine?

A. No, sir; I haven't seen that.

Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds under protest to cross-examine.

Cross-examination by Mr. PARKINSON :

35 Q. What kind of a machine did you use when you pitched those eight hundred kegs that you spoke of?

A. I used a different kind of machine than Gottfried's—the superheated machine.

36 Q. How long have you used that machine?

A. A year now; since I have been in Conrad Seipp's.

37 Q. And did you find that machine there when you went there?

A. Yes, sir.

38 Q. They pitch all their kegs on that machine now?

A. Yes, sir.

39 Q. You don't know how long they have been pitching on that machine?

A. No; I could not say; when I came there they were using that, but they used Gottfried's before.

40 Q. Where were you at work before you went to Conrad Seipp's?

A. I was foreman for Bartholomae and Leicht, in Chicago, here.

41 Q. How long had you been foreman?

A. Ten years and ten months.

363 42 Q. Where were you before that?

A. With John A. Huck.

43 Q. What means have you of knowing the ordinary duration of kegs when pitched by machine?

A. I don't understand the question.

44 Q. Have you had charge of buying the kegs at either of the breweries where you have been?

A. No, sir.

45 Q. Do you know how many they buy in a year?

A. No; that is more than I can tell you, because I tell you how it is: Sometimes they get one hundred, sometimes four hundred, and sometimes three hundred, and you haven't time to think about that. The foreman has too much else to do. The boss generally does that.

46 Q. You testified in this case some weeks ago, did you, to about the same facts that you have now testified?

A. Yes, sir.

47 Q. You stated then, did you not, that your salary was four thousand dollars?

A. Yes, sir; but my salary has been raised and is five thousand dollars a year now.

48 Q. And the Seipp brewery is the largest in Chicago?

A. Yes, sir.

49 Q. And one of the largest in the country?

A. Not the largest in the country; there are some large ones in St. Louis, and some in Milwaukee, and some in Philadelphia, but it is one of the largest.

364 50 Q. How long have you known Matthew Gottfried?
A. I knew Mr. Gottfried in '56 or '57; at that time he was the foreman at Seigler's, where Bush and Brand's old brewery stood.

WILLIAM J. SEIB, recalled, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. You spoke of pitching eight hundred kegs with the superheated steam machine?
A. Yes, sir.
2 Q. Can you pitch as fast with the Gottfried and Holbeck machine?
A. Yes, sir; just as fast.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent.)

Anton Schuerle.

ANTON SCHUERLE, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. What is your name?
A. Anton Schuerle.
2 Q. Where do you live, and what is your business?
A. I live in Chicago, and I am a brewer.
3 Q. I believe you are retired from that business now?
A. Yes; for two or three years.
365 4 Q. How long were you engaged in the brewing business?
A. Over thirty years.
5 Q. In this country or in Germany?
A. In Germany and in this country.
6 Q. Did you ever pitch kegs and casks?
A. Yes, sir.
7 Q. Did you ever pitch them in the old way?
A. Yes, sir.
8 Q. How was that?
A. Well, I was pitching in Cincinnati and Columbus, Ohio.
9 Q. I mean how did you pitch in the old way?
A. We took the head out.
10 Q. Did you ever pitch with a machine?
A. Yes, sir.
11 Q. Are you acquainted with the Gottfried and Holbeck invention for the pitching of kegs and casks—namely, the application of heated air under blast to the interior of kegs and casks for the purpose of pitching them by means substantially as described in their patent of May 3d, 1864, and have you ever used that invention?
A. Yes, sir.
12 Q. When and how long have you pitched kegs and casks with it?
A. Well, about twelve years.
13 Q. State in which way of pitching the best results are obtained.
A. I found the best with the machine.

14 Q. Explain in what way you get better results with the machine.

366 A. Well, with the machine we could pitch of casks about fifty to sixty a day, and by hand we only pitched about twelve to eighteen with the same number of men—with six men. Kegs we pitched by hand from a hundred and fifty to two hundred a day, and with the machine from eight to nine hundred.

15 Q. In which way of pitching are the kegs used up the fastest?

A. With hand pitching.

16 Q. State how much longer the kegs and casks will last when pitched by the machine.

A. I think it is about three times so long with the machine.

17 Q. State whether it requires as much pitch to pitch by the machine as by hand.

A. I figure it that we use pitching by the machine only about three-fifths as much as by hand.

18 Q. State about the kind of men that are needed in pitching by hand, and the kind that are used in pitching by machine.

A. In pitching by hand you must have good hands that understand the business, and pitching by machine we only need one good man that understands the business, and the others can be any kind of common laborers.

19 Q. What is the difference in the wages paid to these different kinds of men?

A. We have to pay the coopers two and a half to two seventy-five dollars a day, and those men in the brewery a dollar and a

367 quarter to a dollar and a half.

20 Q. Are those present prices?

A. Yes, sir.

21 Q. What is the cost of, say, a quarter-barrel keg and a thirty-barrel cask now and during the last ten years?

A. That ranges different; it was two and a half, and then they came down to two dollars and a quarter and one dollar seventy-five and a dollar and fifty-five cents; I guess without the iron bung bushings. Thirty-barrel casks cost from forty to fifty dollars now; ten years ago it was from sixty, sixty-five, to seventy dollars.

22 Q. State, in your opinion, how much the Gottfried and Holbeck invention alone is worth to any brewer who uses it in the ordinary and proper way in dollars and cents, if anything, per keg and per cask over the old way of pitching.

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. My figuring was about fifteen cents on a keg for every pitching and from three to four dollars on a cask.

23 Q. In giving these figures have you considered the pipe from the furnace to the keg as stationary or as removable, if that makes any difference?

A. That is all the same.

24 Q. Did you ever see or use what is called the pitching pan that is introduced into the hogshead through the man-hole and

368 used to heat it in that way?

A. I have seen it, but never used it myself.
25 Q. Where did you see it?
A. In Cincinnati.
26 Q. Did you see it in use?
A. Yes, sir.
27 Q. How much, in your opinion, is the Gottfried and Holbeck invention worth per cask over the pitching pan?

Objected to as speculative and as otherwise incompetent and irrelevant.

A. My figuring is that the pan was worth a dollar or a little more than hand pitching for a cask. You don't need to take the head out with it.
28 Q. In pitching by hand where did the work have to be done?
A. Outside, in the yard.
29 Q. State whether there was any danger to the men or to the buildings when pitching in that way.
A. By hand pitching sometimes it is dangerous. When the weather is bad or windy it is dangerous, and the men burn themselves sometimes by hand pitching.
30 Q. State whether you ever knew of casks or kegs being burned up in pitching by the old way.
A. Yes, sir; I have seen it. I saw one burned up to pieces in Germany.
31 Q. In which way of pitching is the keg and pitch best purified?
369 A. With the machine.
32 Q. Explain why.
A. The machine makes the pitch hotter and makes it evener inside than in hand pitching.
33 Q. State whether pitching by hand is carried on the same way at different places.
A. Well, we have to go outside in the yard in hand pitching; with the machine you can pitch inside.
34 Q. I mean at different cities is the pitching done the same way?
A. Oh, that is all the same. They have to do it the same way; they can't do it any other way.
35 Q. And how is it about machine pitching; is that the same in different cities?
A. Yes, sir; that is the same.
36 Q. Did you ever see machine pitching at Cincinnati?
A. No.
37 Q. When were you there?
A. I was there from 1856 to 1864.

MASTER:

38 Q. In what breweries?
A. I was first in Koehler's brewery and afterwards in Moerlien's.
39 Q. What year were you in Moerlien's?
A. From '61 to '64.

40 Q. How did you do your pitching then?
A. All by hand.
370 41 Q. Did you assist them in pitching there?
A. Yes, sir.
42 Q. What work did you do there?
A. I held the keg and helped drive the hoops on.

Mr. BANNING:

43 Q. Were you ever employed at the Conrad Seipp Brewing Company; and, if so, in what capacity?
A. Yes, sir; I was foreman there.
44 Q. When was that?
A. From '64 to '73—a little over nine years.

(Counsel for defendant objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception thereto, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

45 Q. How have you been engaged since 1873?
A. I was once foreman in P. O'Neil's brewery here in Chicago; he had an ale brewery at first, and I started a large beer brewery for him.
46 Q. How long time did you continue with him?
A. I was there two years and had to quit, as I had rheumatism; then I was two years the second foreman in Downer and Bemis'; their foreman was sick.
47 Q. When and where did you first use a pitching machine?
A. Here in Chicago, in Seipp's brewery.
48 Q. Were they used when you commenced there?
371 A. Yes, sir.
49 Q. When did you last pitch any kegs or casks by hand?
A. I pitched kegs by hand at P. O'Neil's brewery only once, and then we got a machine.
50 Q. What year was that when you got the machine in P. O'Neil's brewery?
A. That was in 1881.
51 Q. Up to 1881 had they been pitching by hand?
A. They commenced in '80 brewing lager beer; they brewed ale before.
52 Q. They had been brewing ale before, had they not?
A. Yes, sir.
53 Q. In 1881 was the first of their using the machine for pitching, was it?
A. Yes, sir; they started with beer at that time.
54 Q. How long had they been brewing ale?
A. They commenced in '65 to build a brewery.
55 Q. Is there any pitching of kegs or casks in an ale brewery?
A. Yes; they pitch sometimes; if they can't clean them any more they pitch them.

56 Q. Do they not pitch kegs and casks every year in an ale brewery?

A. No; they don't keep the kegs at all—only barrels and half barrels in an ale brewery.

57 Q. Don't they pitch the barrels and half barrels in ale breweries?

A. Only if they can't clean them any more, then they pitch them.

372 58 Q. When, with the exception of the pitching in the O'Neil brewery, did you last pitch or see kegs or casks pitched by hand?

A. We pitched only once there before we got a machine in.

59 Q. Was that the last time that you ever saw kegs or casks pitched by hand anywhere?

A. Yes, sir; I think so.

60 Q. When before that did you last pitch kegs or casks by hand?

A. I pitched some that time I came into Seipp's; we pitched some—not very much—then we got a machine.

61 Q. At the time you came to Seipp's brewery how did it compare with other Chicago breweries in size?

A. It was the biggest brewery in this State and nearly in the United States at that time.

62 Q. What breweries have you ever pitched kegs or casks in other than the two in Cincinnati you have named?

A. At Schlegel's brewery; I was working there for a year and three or four months, I guess; when I commenced working there it was in '54.

63 Q. What other breweries besides those you have mentioned have you pitched in?

A. That is all.

64 Q. Are those all that you have worked in?

A. Yes, sir.

65 Q. When did you first see machine pitching?

A. I saw that in '65, here in Chicago, in Seipp's brewery.

66 Q. What time in '65?

373 A. It was in the fall, about in October; I can't remember exactly the date.

67 Q. It was by a machine at that time?

A. Yes, sir.

68 Q. Whose machine?

A. Gottfried's.

69 Q. Do you know what they paid for it?

A. I heard it cost about a hundred and fifty dollars.

70 Q. How long did they use that machine?

A. Well, they used it—I don't know how long they used it; when the machine got old we threw it away and got a new one.

71 Q. When did they buy a new one.

A. I can't tell exactly when they bought a new one; we put one in the shop two or three times and had it fixed up, and then we afterwards bought a new one.

72 Q. How many years were they using this first one?

A. I can't tell exactly; I think it was about five or six years; we had it fixed up in that time.

73 Q. Did they pitch all their kegs and casks on that machine during these five or six years?

A. At first we pitched kegs by hand and only the puncheons with the machine.

74 Q. Up to what time did you continue to pitch the kegs by hand?

A. I think it was in 1867; we got the other machine from the East for keg pitching.

75 Q. Of whom did you get the other machine?

A. I think it was from Albany; I don't know the firm
374 at all.

76 Q. By what name was it known?

A. It was a pitching machine.

77 Q. Did you have any special name for it?

A. No; only for pitching kegs.

78 Q. You don't know of whom it was bought?

A. No, sir; only I think it was bought in Albany.

79 Q. Are you sure that it was in 1867 that you got that machine?

A. Yes, sir.

80 Q. Have you any memorandum that will show when that keg-pitching machine was bought?

A. No; I have no memorandum at all; I know this well enough in my head.

81 Q. You are positive that this machine was bought in 1867?

A. Yes, sir.

82 Q. And all the kegs in the brewery were pitched on this machine from 1867 on, were they?

A. For awhile, until the machine was used up; then they fixed Gottfried's machine up for pitching kegs.

83 Q. And how long did they use that machine for pitching kegs?

A. They do not use it now; they have a steam machine, the superheated steam machine, for pitching.

84 Q. How long have they used the superheated steam machine?

A. I don't know exactly; I was not there at the time they got the machine; I was out of business at that time and was not working any more.

375 85 Q. State, as nearly as you can, how long.

A. I should say three or four years, but I can't say exactly.

86 Q. That is a machine that drives the steam through a coil into a furnace where the coil is heated and the steam passes thence into the keg?

A. Yes, sir.

87 Q. Do you know whether they are using that machine at Seipp's brewery?

A. As much as I know, yes, sir.

88 Q. Do you know whether they pitch all their kegs on that machine or not now?

A. I guess they have no other machine now.

89 Q. In any of the breweries with which you have been connected have you had charge of the purchasing of the kegs for the brewery?

A. No; never.

90 Q. Have you had charge of the paying of the employees in any of these breweries?

A. No; I only had to keep time.

91 Q. When you testified in this cause some weeks since who was here in the room at the time you were testifying?

A. Mr. Banning and the notary and Mr. Uhleman and Mr. Thorman, Mr. Welke, and Mr. Gottfried.

92 Q. Any others?

A. There were some others in the other room, but I don't know their names.

93 Q. When you pitched eight or nine hundred kegs in
376 a day how many kegs did you pitch at a time?

A. Two; we put two on at a time.

94 Q. And sometimes three?

A. No; we can put four on, but we only put two on.

95 Q. You used a machine with two pipes, did you?

A. Yes, sir.

96 Q. In any of the breweries in which you have worked have you had charge of purchasing the pitch?

A. No; when I needed some I ordered some in the office.

97 Q. What other breweries here in Chicago, if any, do you know of where they are using this superheated steam machine?

A. I can't tell; I don't know.

98 Q. How long have you known Mr. Gottfried?

A. I have known him some eighteen or nineteen years.

99 Q. When did you first talk with him or with anybody else about testifying in this case?

A. Mr. Gottfried came to my house and asked me if I wanted to go with him and give my testimony in this case of the pitching machine; that is the first and last time he was talking to me; I thought of it and made up my mind what I thought of it.

100 Q. Who besides Mr. Gottfried have you talked with about it?

A. I was talking to the folks here, who said we had to go
377 and give our testimony again this morning, but did not say anything about what we had to say.

101 Q. Whom did you talk with about it at the time you testified before?

A. Well, I was talking to nobody but Mr. Gottfried and Mr. Uhleman; this was afterwards, not before; we didn't talk about these things before we was on the stand, except what I say I said to Mr. Banning.

102 Q. How long does a keg usually last?

A. Well, five, six, or seven years, if it don't get lost before.

103 Q. What is your means for knowing how long they will last?

A. I know how long we can use them for beer.

104 Q. Do you mean they last that length of time when pitching by machine?

A. If pitched by machine they last longer.

105 Q. About how long do they ordinarily last when pitched by machine?

A. If they don't get lost, about ten or twelve years.

A. I never was.

107 Q. What is the longest time you stayed in a brewery where they pitched by machine?

A. Nine years.

108 Q. In what brewery was that?

A. Seipp's brewery.

109 Q. When did you leave that brewery?

A. In 1873.

378 110 Q. You began to pitch kegs by machine in 1867, did you?

A. No; they commenced with kegs in '67, but the big hogsheads in '65.

111 Q. You are not a chemist, I suppose?

A. No.

112 Q. What is your nationality?

A. I am a German.

113 Q. At what age did you come to this country?

A. I was eighteen years old—not quite; about two months to eighteen.

Redirect examination by Mr. BANNING:

114 Q. In saying that kegs and casks will last about three times as long when pitched by machine as they will when pitched by hand, you mean with proper and ordinary care, do you not?

A. Yes, sir.

115 Q. And in stating that they will last this much longer you form your opinion, do you, from the rapidity with which they are worn out or injured in the one case or the other?

(Objected to as leading.)

A. I don't understand the question.

116 Q. Why do you think they will last so much longer by machine pitching than by hand pitching?

A. Because you have to take the heads out and the heads are broken, and sometimes they break the hoops and burn the staves, and it is just the same way with the casks.

117 Q. And you avoid this wear and tear by the machine, do you?

379 (Objected to as leading.)

A. Yes, sir.

(Counsel for defendant- objects to the foregoing as irrelevant and incompetent, and, without waiving the exception proceeds, under protest, to cross-examine.)

Recross-examination by Mr. PARKINSON:

118 Q. How many kegs or casks did you ever see burned up pitching by hand?

A. Well, I didn't count them, I know the ends of the staves burn up from the fire so that the head don't hold any more and you can't use the keg; it don't hold any beer then.

119 Q. How many did you ever see burned up?

A. In the old country we had lots of it; we had to saw the ends off and make new ones.

120 Q. How many kegs or casks have you seen burned up, clear up, where they were pitching by hand?

A. I saw only one burning clean up, and I saw two or three burning, but the- turned the cask over and piled sand around it, but we could not use it any more.

121 Q. Did you ever see a keg or cask injured pitching on the machine?

A. No; I never see that.

122 Q. You never saw either a keg or cask injured where the pitching was done on the machine?

380 A. No; I never saw a keg or cask damaged by the machine.

123 Q. What was your special business when you were in Seipp's brewery?

A. I was foreman, to attend to the whole business and look around.

124 Q. And in the two breweries you were in, in one instance you were assistant foreman and in the other foreman, were you?

A. Yes, sir.

125 Q. In what capacity were you employed in the Moerlein brewery and the Keeler brewery in Cincinnati?

A. In the Keeler brewery I was pitching the hogsheads and putting them in the cellar, and afterwards I had to repair kegs and half barrels. I was a cooper at that time. At Moerlein's I helped pitch and did the work in the brewery; when we were not pitching we had to work in the brewery.

126 Q. In these breweries you were employed constantly about some work?

A. Yes, sir.

127 Q. What wages were you paid?

A. We had wages by the month. We got thirty and thirty-five and afterwards fifty and fifty-five dollars.

128 Q. What wages were you paid at that time?

A. I had five dollars more a month than the others.

129 Q. More than the other workmen in the brewery?

381 A. Not more than all the workmen; some of the men had as much as I had.

130 Q. Five dollars more than the ordinary workman?

A. Yes, sir.

131 Q. How much were you paid a month in these breweries?

A. I had fifty-five dollars in Moerlein's a month.

132 Q. Did you have that when you first went to Moerlein's?
A. No; I had only fifty.
133 Q. What did you have in Keeler's brewery?
A. At that time the wages were lower. They paid thirty dollars a month, and I had thirty-three dollars and afterwards thirty-five. The other laborers had twenty-four, twenty-eight, and thirty dollars.
134 Q. How many of those that helped you about the pitching were there in these breweries who were paid the same wages you were?
A. That is only me. The others got the same wages. I had only more. The other five did not get so much as I.
135 Q. They got the same wages as the ordinary workmen, did they?
A. Yes, sir.

Redirect examination by Mr. BANNING:

136 Q. At that time state whether you had your board in the brewery in addition to your wages.
A. No; we had no board at that time.
137 Q. You boarded yourself?
A. Yes, sir.

382 (Counsel for defendants objects to the foregoing as irrelevant and incompetent.)

Clements Uhleman.

CLEMENTS UHLEMAN, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1. Q. State your name and residence.
A. Clements Uhleman; Chicago.
2. Q. What is your business now?
A. A brewer and mal-ster.
3. Q. Are you in business for yourself or employed for some one?
A. I am employed as foreman with Binz' malt house.
4 Q. Were you ever in the brewing business?
A. Yes, sir.
5 Q. For how many years?
A. Since 1858.
6 Q. In this country or in the old country?
A. In the old country—in Germany.
7 Q. When did you first come to this country?
A. In 1865.
8 Q. Did you ever pitch kegs and casks?
A. Yes; I did.
9 Q. Did you ever pitch them in the old way?
A. I pitched in the old way in the old country, and the same in this country—by hand.
10. Q. Did you ever pitch with a machine?
A. Yes, sir.

11 Q. How did you pitch by hand?

383 A. We took out the bottoms and pitched them.

12 Q. Have you ever had much experience in pitching by machine?

A. I think so.

13 Q. Are you acquainted with the Gottfried and Holbeck invention, namely, the application of heated air under blast to the interior of kegs and casks for the purpose of pitching them by means substantially as described in their patent of May 3d, 1864, and have you ever used that invention?

A. I did.

14 Q. When did you first use it?

A. In 1867.

15 Q. How long did you use it?

A. I used it several times.

16 Q. For how many years?

A. Until two years ago.

17 Q. Where did you use the machine?

A. In Seipp's brewery, and in old man Binz's, and out in the West—in Kansas.

18 Q. In which way of pitching are the best results obtained?

A. By the machine pitching.

19 Q. Explain how you get the best results.

A. I get a good heat in and the pitch runs straight off, and it is smoother and purifies the pitch better. By hand you burn the pitch.

20 Q. State in which way you can pitch the fastest.

A. By machine.

21 Q. How much faster?

384 A. I pitch by hand with six men from a hundred and eighty to two hundred and twenty-five kegs in a day by hard working, and by machine I pitch from seven hundred and fifty to nine hundred kegs and over with the same number of men in a day.

22 Q. In which way of pitching is the most pitch used up?

A. I was foreman for six years in Keeley's, and the first time I pitched by hand I used up one-half much more pitch than I used by machine; for a keg I used about one and one half pints, and by hand pitching I used over a quart; for thirty-barrel casks, if new ones, it would take about four and a half to five gallons, and by hand pitching, when you put the hot iron in it, it would take seven gallons and over for a nince good pitching.

23 Q. In which way of pitching are the kegs used up the fastest?

A. By hand pitching.

24 Q. About how much faster?

A. When you pitched by hand you used three kegs where you used by machine one; by hand pitching you have to take the heads out and that spoils them.

25 Q. You mean the wear and tear is three times as much by hand pitching as by machine pitching?

(Objected to as leading.)

A. Yes, sir.

26 Q. State whether there is any difference in the kind of
385 men required to do the two kinds of pitching?

A. Oh, yes; by machine pitching we want one good man, and when he is by you can do the work, but by hand pitching you need men who have learned the trade—coopers and brewers.

27 Q. Is there any difference in the wages paid to these men?

A. Of course; a man who has learned his trade expects more money than a common man.

28 Q. Did you ever see them use what is called the pitching pan, that is introduced into a cask through the man-hole to heat it in that way?

A. I used it myself for a year.

29 Q. Where was that?

A. In Atchison, Kansas, in 1872.

30 Q. State what, in your opinion, the Gottfried and Holbeck invention is worth alone in money, if anything, per keg and cask to any brewer who uses it in the ordinary and usual way over the old way of pitching or the use of the pitching pan.

(Objected to as speculative and otherwise incompetent and irrelevant.)

A. The pitching pan is no more worth than the hand pitching; you need as much labor to do it as by the hand pitching, and it breaks up the hogshead as much as by hand pitching; I think it is worth on labor and wearing about fifteen to twenty cents on a keg for one pitching, and for a cask about three dollars a year; the casks you pitch only once, but kegs you pitch twice in a year.

386 31 Q. State whether hand pitching is the same in different places or not.

A. So far as I know, in the old country and here it is the same.

32 Q. And it is the same with the machine pitching?

A. I pitched here and in St. Louis, and it is the same with the machine.

33 Q. State where pitching by hand has to be carried on—sheltered or in the open air.

A. In the open air the pitching must be in a free place.

34 Q. State whether in pitching by hand there is any danger of injuring the men or the buildings.

A. It is not so dangerous for the buildings, because the pitching places are big places, but there is danger for the hands from being burned with pitch and from the fire when it comes out. I have two marks on my arms where I was burned to the bone. I know lots of friends who have been badly burned by hand pitching, but by machine you never could get injured.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.

Cross-examination by Mr. PARKINSON:

35 Q. What brewery did you first work in in this country?
A. In Seipp and Lohman's brewery.
36 Q. Where?
A. Here in Chicago.
387 37 Q. When?
A. 1866.
38 Q. How long did you work there?
A. Until 1868.
39 Q. Where did you work after that?
A. After that I worked in Frank Binz's brewery, in Chicago, in 1872; it is now Keeley's brewery; from '72 out I was foreman in Kansas, until 1878.
40 Q. How was the pitching done in this first brewery you worked in, in Chicago?
A. In Seipp's brewery I worked first in the malt-house and then I worked in the pitching place, and pitched by machine the casks and the kegs by hand.
41 Q. Up to what time did you pitch kegs by hand?
A. Through the summer, and in the fall we got the machine.
42 Q. Do you know what machine they got at that time?
A. No, sir; I did not know where it came from.
43 Q. What work were you specially employed for in this brewery?
A. For maltster the first year, and the other time for making the beer in the kettle.
44 Q. Was it while you were maltster or after you began to make the beer in the kettle that they got this machine for kegs?
A. That was after I was making the beer in the kettle, in the fall.
45 Q. What year did you begin as maltster?
A. In '66.
388 46 Q. What time in '66?
A. I could not tell you for sure, but I think it was in February or March.
47 Q. Have you any means except your memory by which you know that this machine for kegs was used the next fall after you went to work at the kettle?
A. No better than that I gave it by heart. I give you my own mind; I don't keep books about those facts.
48 Q. When were you first asked to state the date when they first began to use this machine?
A. I don't know; that is too long ago.
49. Q. When were you first asked to state the time when they began to use that machine; were you ever asked to state this before I asked you to-day?
A. No; but I was here in this office about six weeks ago.
50 Q. Were you then asked when they first began to use this machine?
A. This is the first time for about six weeks, when I told them the same.

51 Q. Were you asked about six weeks ago when you were here to state when they began to use that machine for pitching kegs?

A. No; we was only asked when we commenced the work.

52 Q. Were you ever asked when that machine began to be used until I asked you to-day?

A. No; only just what I told you before about working with this machine.

389 53 Q. When did you go to Binz's brewery?

A. In '67.

54 Q. And remained there how long?

A. Until June, 1872.

55 Q. What work were you doing there?

A. I made beer, worked in the cellar, and pitched kegs; we only had about eight men, and we had to do all the work that came up there; all of us had to come out and pitch.

56 Q. The pitching there was done by hand, was it?

A. Yes, sir—that is, at first it was done by hand for the keg, but big hogsheads were pitched by machine. The first year the machine came in—Mr. Gottfried's machine—and we pitched with that, the casks first.

57 Q. This was the second year which you were at Binz's brewery?

A. Yes, sir; the second year.

58 Q. Before they got this machine the pitching was done by you and other hands employed regularly at the brewery, was it?

A. Yes, sir; the brewery hands.

59 Q. The next place you were employed was in Kansas, was it?

A. Yes, sir.

60 Q. What was your business there?

A. Foreman.

61 Q. How was the pitching done there?

A. First year it was done pitching by the pan and a blacksmith's bellows to get the air to the pan and make the hogshead hot; the keg pitching was done by hand. Then I throwed this

390 pan away and got one of the machines; I don't know where the machine came from.

62 Q. What did you use the machine for?

A. For pitching big hogsheads and kegs.

63 Q. Who did the pitching before you got the machine?

A. I did myself with the other hands in the brewery.

64 Q. Can you state how many kegs per year they bought in that brewery after you went there until you left?

A. No, sir; I can't do that.

65 Q. Can you state how many kegs they had?

A. No, sir.

66 Q. At any time?

A. No, sir; I don't know how many thousand kegs we had there. When the kegs came in we took a candle and lit them, and if it was necessary to pitch it we throwed it out and pitched it. In a city trade you don't need to pitch it every time, but in a shipping trade we had to look them all through, and the shipping kegs had to be

pitched most every time they came in, and I could not tell how many kegs we had on hand.

67 Q. How long have you known Mr. Gottfried?

A. About since '66 or '67, by the face; not particularly, but only when I saw him.

68 Q. How long have you known him personally?

A. That is about a year or a year and a half. I had known him some time, but did not know him personally.

69 Q. You mean you have known him personally since about a year ago?

391 A. Yes, sir.

70 Q. Have you named all the breweries in which you have worked in this country?

A. Yes, sir; I had no other places except Seipp's and Binz's and in Kansas, and then before the fire I worked in Sentz's brewery.

71 Q. What work did you do there?

A. I worked in the cellar.

72 Q. How old were you when you came to this country?

A. Twenty-four years old.

73 Q. You are a German?

A. Yes, sir.

74 Q. What kind of work had you done before you came here?

A. Brewer and maltster work from a boy of fourteen years.

75 Q. What special work had you done in a brewery?

A. Everything—making beer, working in the cellar, and everything that belonged to it.

Redirect examination by Mr. BANNING:

76 Q. When pitching was done entirely by hand, state whether brewers required that the men whom they employed should have some knowledge of how to do it.

A. Yes, sir; the men must have experience in it.

(Counsel for defendants objects to the foregoing as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Recross-examination by Mr. PARKINSON:

77 Q. When it was customary to pitch by hand were the
392 men about the brewery accustomed to assist in the pitching when not otherwise employed so far as they might be needed?

A. Most times we had all learned brewers and coopers pitching by hand.

78 Q. What wages were you paid when you were at Seipp's brewery?

A. In the malt-house I had fifty-five dollars and in the kettle I had sixty dollars.

79 Q. What wages were you paid in the Binz Brewery?

A. Sixty-five dollars all the time I was there.

80 Q. What wages in the Kansas Brewery?

A. As foreman I had a hundred and twenty-five dollars.

81 Q. In the Seipp Brewery during all the time you were there did they have coopers employed?

A. Oh, yes; they had a cooper shop there and worked four or five or six men repairing kegs and pitching them.

Edward Thorman.

EDWARD THORMAN, a witness produced, sworn, and examined on the part of complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. What is your name?

A. Edward Thorman.

2 Q. What is your business and where are you employed?

A. I am a cooper and am working here in Chicago.

3 Q. In connection with what brewery?

393 A. I am working in Seipp's Brewing Company.

4 Q. State whether or not Seipp's brewery for whom you are working is not one of the largest breweries in the West outside of Milwaukee.

A. It is.

5 Q. About how much beer do they produce a year?

A. About a hundred and forty thousand barrels.

6 Q. About how many kegs and casks do they have in their brewery?

A. About eleven hundred casks and from eight to ten thousand kegs, barrels, and half barrels.

7 Q. What is your business as cooper for the Conrad Seipp Brewing Company in connection with these casks and kegs?

A. I pitch them and repair them and do all kind of work that belongs to that kind of business.

8 Q. How long have you been in the business?

A. About twenty-five years.

8½ Q. Did you ever pitch kegs and casks?

A. Yes, sir.

9 Q. In the old way, by taking out the heads?

A. Yes, sir.

10 Q. Did you ever use a machine?

A. Yes, sir.

11 Q. State whether you are acquainted with the Gottfried and Holbeck invention, namely, the application of heated air under blast to the interior of kegs and casks for the purpose of pitching them by means substantially as described in their patent of

394 May 3d, 1864, and have you ever used that machine?

A. Yes, sir.

12 Q. How long and how extensively have you used it?

A. Well, we used the machine for kegs about twelve years, and for puncheons about thirteen years.

13 Q. State in which way of pitching, by the old way or by the use of this invention, the best results are obtained.

A. The best is by the machine.

14 Q. Explain in what way you obtain better results — by pitching with the machine?

A. By hand pitching we had to take the heads out of the kegs and of the puncheons, and then we broke the heads and broke the ho-ps, and then we used about a quart more pitch in pitching kegs than we used by the machine, and then we can't pitch so much; with four or six hands we pitch a hundred and fifty or a hundred and eighty a day by hand, and by machine we pitch from eight hundred to a thousand with the same number of men.

15 Q. State about how much pitch is required in pitching a cask, a thirty-barrel cask, in the old way, and about how much is needed by the use of the machine.

A. By hand pitching we use about six or seven gallons to a thirty-barrel cask, and by machine we use about five gallons.

16 Q. State whether there is any difference in the length of
395 time that casks and kegs will last when they are pitched by hand and by machine.

A. The kegs and casks hold about three times longer when pitched by the machine than when pitched by hand.

17 Q. State whether there is any difference in the kind of men needed to do the pitching by machine from those needed in pitching by hand; if so, what?

A. Yes, sir; by hand pitching we use good coopers, and pay them from two dollars and a half to two dollars seventy-five cents a day, and by machine we take a common laboring man, and we have one good man and five or six common laboring men, and we can do the work. By hand pitching you need good workmen, good coopers, and good brewers.

18 Q. About what is the difference in the price of these different kinds of men?

A. We pay from two and a half to two dollars seventy-five cents for good coopers, and for laboring men about a dollar and a half to a dollar seventy-five cents.

19 Q. State what, in your opinion, the Gottfried and Holbeck invention alone is worth to any brewer who uses it in the regular, ordinary, and proper way in money, if anything, per keg and per cask over the old way of pitching.

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. About fifteen to twenty cents for a keg of one pitching,
396 and about five dollars for casks for one pitching.

20 Q. In making this statement have you considered the pipe leading from the furnace to the keg as stationary or as removable, capable of being taken off?

A. It is all the same; there is not much difference in that.

21 Q. Did you ever see or use what is called the pitching pan that is introduced into a cask through the man-hole and used to heat it in that way?

A. No, sir; I never saw that kind of pitching.

22 Q. ——.

MASTER:

23 Q. By which method is the best quality of pitching obtained?
A. By machine pitching; the machine makes the keg hot and makes the pitch smoother inside than hand pitching; pitching by hand, the pitch gets too thick in the kegs and the kegs are burned too much.

Mr. BANNING:

23½ Q. How long since iron bung bushings came into general use?
(Objected to as irrelevant and incompetent.)
A. When I came to this county, in 1865 or 1866, I saw those nail bushes, iron nail bushes.

MASTER:

24 Q. I understand that the pitch has some effect upon the beer; by which method of pitching is the most advantageous result in this respect accomplished, if it has any effect at all?
397 A. I don't know what you call it in the wood; it tastes just the taste of the wood, and the pitch takes the taste out. The wood has a bad taste if it is not pitched; the oak wood has a bad taste.
25 Q. By which method is the pitch best purified or cleansed?
A. I don't understand what that means.
26 Q. In which method is the pitch more thoroughly cleansed?
A. By hand pitching we get more taste, but by machine pitching we get it cleaner.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds to cross-examine under protest.)

Cross-examination by Mr. PARKINSON:

27 Q. When did you last pitch kegs by hand?
A. About 1870.
28 Q. You have not pitched any by hand since then, have you?
A. No, sir.
29 Q. Have any been pitched by hand in the brewery where you have worked since then?
A. Yes, sir; down in Detroit they pitched all by hand. I was there three years before I came to Chicago, and we pitched all by hand—casks and kegs.
30 Q. Have any kegs or casks been pitched by hand in the brewery where you have been working since 1870?
398 A. No, sir; the last time we pitched by hand in Seipp's brewery was from '69 to '70.
31 Q. Since that time there have been no kegs or casks pitched by hand in the brewery where you have been working?
A. No, sir.
32. Q. When did you first come to this country?

A. About 1866.

33 Q. What was the first brewery you worked in?

A. At Mr. Stroh's, in Detroit, Michigan.

34 Q. When did you begin to work there?

A. About in February, 1866.

35 Q. At what wages?

A. I got three dollars a day, and I was a green hand.

36 Q. What wages do you get now?

A. Two dollars and a half a day.

37 Q. What wages did you get when you first came to Chicago?

A. About two dollars seventy-five and three dollars.

38 Q. Up to what time did you get two dollars seventy-five and three dollars?

A. At that time we did all the work by hand, and they needed more coopers, but now they got the machine and they don't need the coopers no more, and that is the trouble.

39 Q. During what time after you came to Chicago were you paid three dollars?

A. I was paid that pitching puncheons.

40 Q. I want the time stated by years, or as nearly as you can.

A. I never worked by the year; always by the week.

399 41 Q. What were you paid in 1871?

A. Two dollars seventy-five cents; I can show my book.

42 Q. What wages were you paid in 1872?

A. About the same.

43 Q. When were your wages reduced to two dollars and a half?

A. About 1873 or '74.

44 Q. When you were in Detroit were you paid all the time you were there three dollars a day every working day of the year?

A. Yes, sir; I worked there three years.

45 Q. Were you paid three dollars a day every day of the year, or did you only work certain days?

A. Only when we worked.

46 Q. How many days in the year did you work in Detroit at three dollars a day?

A. So long as the pitching season was; in the winter time so long as we pitched, but in the summer time we worked by the piece making kegs and casks, and we sometimes made more than three dollars; we got eighty-five cents apiece and made four in a day.

47 Q. How many days in the year were you paid three dollars a day for pitching in Detroit?

A. About four or five months.

48 Q. Every day of these four or five months?

A. Not every day; when the weather was bad we could not pitch by hand, and when it blowed you can't pitch.

400 49 Q. That depends upon the kind of yard or place you have to pitch in?

A. Yes, sir; we had five or six lots all free; we could not pitch where there were houses, as there was too much smoke and too much fire.

50 Q. Give me the names of the persons employed in Detroit to help you pitch, stating at the same time where they now are.

A. Bernhard Stroh; he is dead about a year and a half ago. August Ruoff; he is still at Detroit, and has a brewery there. Joseph Voegel; he lives at Detroit, Michigan, too; he lived there fourteen years ago, but I don't know whether he lives there now; I have heard nothing from him for eight or nine years. Mr. Ams; he lives at Detroit, so far as I know; I don't know his first name; you can find it out in the brewery book. Nicholas Devl; he lives at Detroit, Michigan, or he was there, but I have not heard from him for nine or ten years. There are some more there, but I have forgotten them.

51 Q. What was August Ruoff's position when he worked with you?

A. He was a brewer; he had a brewery.

52 Q. Did he work in the same brewery with you?

A. I worked for him; he was the boss.

53 Q. Did he himself work at pitching kegs?

A. No, sir; he did not.

54. Q. What was Voegel's business?

A. He was the boss for the brewery.

56 Q. Did he help you pitch kegs?

401 A. No, sir; he looked after us; he was the boss of the brewery, and saw that we done the work right.

56 Q. What was Devl's business?

A. He was a brewer, and was the boss of the brewery.

57 Q. Did he work at pitching kegs?

A. No, sir; he did not.

58 Q. Did Bernhard Stroh work at pitching kegs?

A. No, sir; he was the biggest brewer there at that time.

59 Q. Now, can you name the persons that helped you pitch kegs while you were working for that Detroit brewery?

A. I know many fellows, but I could not say their names. I could not tell you that exactly. I know persons, but I can't give you the names; it is too long ago.

MASTER:

60 Q. These names that you have given are the names of the proprietors of the breweries?

A. Yes, sir. I forget the names of the men. I worked for almost every brewery that was there at that time, and saw a good many fellows.

Mr. PARKINSON:

61 Q. How do you know what the men who helped you pitch kegs at that time were paid; did you pay them?

A. No, sir.

62 Q. How do you know what they were paid?

A. My brother was the cooper boss and I worked for him, and I knew what all the men got. I saw his books and everything.

402 64 Q. Can you produce the books that show what the different men employed in pitching in the Detroit breweries were paid?

A. I believe so. The books must be there yet. My brother has got the books yet, and if you want them particularly I will write to him and he will send them up. I would not say a lie at all. You must not take me as that kind of a man at all.

65 Q. If you can produce those books please do so for my inspection before I proceed with your cross-examination.

A. The books are in Detroit, in the possession of other persons.

66 Q. Did you work in all these breweries you have spoken of in Detroit each year that you were there?

A. Yes, sir; as long as I was there we worked every winter and summer pitching kegs and casks. One time we pitched in one brewery and another time we pitched in another brewery. We went from one to the other. We changed around so that we pitched every day the whole week in different breweries.

67 Q. How many were there in your party that went from one brewery to the other?

A. Four men; we took four men to roll the casks.

68 Q. Those men, with the men that were in the brewery already, did the work?

A. Yes, sir.

MASTER:

403 69 Q. Did the other men get the same wages that you did?

A. Yes, sir. The coopers got three dollars at that time; now they work cheaper.

Mr. PARKINSON:

70 Q. Did your gang—that is, the party that went with you—do all the pitching for the Detroit breweries?

A. Yes, sir.

71 Q. How many breweries were there there at that time?

A. About thirty or thirty-five at that time.

72 Q. When did you first see a pitching machine?

A. About 1869 I came up to Chicago and we pitched the puncheons for Mr. Seipp and we used the first machine I saw; that was Gottfried and Holbeck's machine. We pitched puncheons with it, as we had no machine for pitching kegs. We pitched kegs by hand and puncheons by machine.

73 Q. Do you have anything to do with buying the kegs in the brewery where you now are?

A. No, sir.

74 Q. Have you had at any time?

A. Yes, sir; I had a shop for myself one time.

75 Q. When was that?

A. About 1874—'73 or '74.

76 Q. You kept a shop for yourself?

A. Yes; I was the boss in there; a cooper shop.

77 Q. What was your business—making kegs?

A. Yes, sir; making kegs.

78 Q. You never had charge of buying kegs for any brewery, did you?

404 A. I never had charge of buying kegs.

79 Q. What other work did you do for those Detroit breweries besides pitching their kegs?

A. Making kegs.

80 Q. Any other work besides making kegs?

A. No, sir.

81 Q. Did you repair kegs?

A. Yes, sir; all that kind of work, repairing puncheons and kegs; and if we had none to repair we made new ones.

82 Q. Do you know how many kegs are bought a year at the brewery in Chicago where you now are?

A. We bought about seven thousand last year and about three or four thousand this year.

83 Q. Can you state about the average number purchased by them per year?

A. No; I can't say that.

MASTER:

84 Q. Do you mean from the first of January up to the present time when you say that they have bought three or four thousand this year?

A. Yes, sir.

Mr. PARKINSON:

85 Q. How many kegs do they keep on hand at that brewery?

A. We have none on hand; as soon as we get them in we use them.

86 Q. How many kegs does the brewery own?

A. I could not tell that; they send them out and they stay away five or six weeks; they are coming in and going out all the time, and I can't say that.

405 87 Q. How many pitching machines has the Seipp brewery?

A. Only one.

88 Q. Of whom was that purchased, or don't you know?

A. I can't tell that; no, I can't tell that neither.

89 Q. You are not a chemist, are you?

A. I don't know.

90 Q. Whom have you talked with about the value of the Gottfried patent before you commenced to testify?

A. I did not talk at all; we just use the machine, and the machine was good; I never heard from whom came the machine, but after -while I found out that Mr. Gottfried had a patent on it, and that is all I know about the machine.

91 Q. When did you first talk with Mr. Gottfried about testifying in this case?

A. About four or six weeks ago; the first time I was here. They

came out to the brewery and wanted me for a witness, and I said, All right, and went along, but never spoke a word to him then and never spoke a word before.

92 Q. Whom beside Mr. Gottfried did you talk with about your testifying here before you began to testify?

A. I don't understand you.

93 Q. Who else beside Mr. Gottfried talked with you about your testimony in this case?

A. Nobody talked to me at all.

406 94 Q. Have you not told anybody what you were going to testify to here?

A. Yes, sir; my foreman asked me if I wanted to go and I told him; I told him I was busy and I could not go away without permit.

95 Q. Whom else did you talk with about it?

A. Nobody.

96 Q. Have you not talked with the other witnesses about your testimony?

A. No, sir.

97 Q. Did you not tell anybody before you went on the stand what you thought that invention worth?

A. No, sir.

98 Q. Did not anybody ask you before you went on the stand what you thought it worth?

A. No, sir.

99 Q. Was anything said to you at all before you went on the stand as to your idea of the value of the Gottfried invention?

A. No, sir.

100 Q. Was anything said to you about how much you had used pitching machines?

A. No, sir.

101 Q. Was anything said to you about whether you had ever pitched by hand or not?

A. No, sir.

102 Q. Mr. Gottfried did not ask you about any of these things, did he?

A. No, sir; I know that myself.

103 Q. I am not asking you whether you testified from what you know, but whether anybody asked you about anything of the kind before you went on the stand?

407 A. No, sir.

104 Q. Nobody ever mentioned the subject to you, did they?

A. No, sir.

105 Q. Nobody ever called your attention to an estimate of the value of the pitching machine, did they?

A. No, sir.

106 Q. When did you first have occasion to consider how much benefit there was in the pitching machine as compared with the pitching by hand?

A. I found that out myself.

107 Q. When did you estimate it in dollars and cents?

A. There is no repairs and no damage done, and I figured that out myself.

108 Q. Without being asked?

A. Yes, sir.

109 Q. Did you make a computation in figures?

A. No, sir; I made it out right away; it was in my mind; Mr. Banning asked me, and I made up my mind that way.

110 Q. You made it out right here before you went on the stand this time, did you?

A. No, sir; when I went here on the stand before this.

111 Q. Was it before you were sworn that you talked this over?

A. No, sir.

112 Q. Then you never mentioned the subject to Mr. Banning or Mr. Gottfried until after you were sworn this time?

A. Yes, sir; so long ago as I was on the stand before, Mr.
408 Banning asked how much it was the worth to the kegs, and I made up my mind that way, about six weeks ago.

113 Q. Am I to understand that you said nothing to anybody about this until after you were sworn and commenced to testify to-day?

A. Yes, sir; that day I was sworn and went on the stand and then I talked over it, but not before.

114 Q. By that day you mean a day some five or six weeks ago, do you?

A. Yes, sir; the first day I came here; when I first testified in this case.

115 Q. Do you buy the pitch for the brewery where you now are?

A. No, sir.

116 Q. Have you ever done so?

A. No, sir; I have nothing to do with that kind of business.

117 Q. Were you here in the office this morning with several other gentlemen that were to testify in this case?

A. No, sir; we came in here by ourselves and talked about other business.

118 Q. The value you were to place upon this invention was not mentioned between you and the other gentlemen?

A. No, sir.

119 Q. No allusion was made to it, was there?

A. No.

120 Q. It was not talked over between you when you were here to testify before, was it?

A. No, sir.

409 121 Q. Nor after you were here to testify before?

A. No, sir.

Redirect examination by Mr. BANNING:

122 Q. In pitching by hand is it every day that you could pitch, or did the weather prevent sometimes?

A. Yes, sir.

123 Q. Do you mean that you could pitch every day?

A. Of course, if we got good weather we can pitch.

124 Q. Why did the weather interfere with your pitching?

A. When we got rain we can't heat the pitch and can't make the fire in the puncheons, and we can't get the hoops tight, and as soon as we get a strong wind we can't pitch no more; when we get a strong wind then we have to stop.

125 Q. Why does it interfere?

A. We have too much wind in and the fire is too strong.

126 Q. Did you ever know of casks being burned up in pitching by the old way?

A. Oh, yes; yes, sir; I saw a cask get afire and then the wind pushed the two men away from the bottom and the other three men put the cask upside down and the pitch and everything was lost.

127 Q. State whether there was any danger to the buildings or the men when you pitched in the old way.

410 A. It don't amount to much to the buildings, because we pitched in the middle of a free lot, but it makes more effect upon the men; the men get too tired hammering all day, and then the fire gets in his face.

128 Q. What is the cost of a quarter-barrel keg and a thirty-barrel cask at the present time?

A. A keg costs about a dollar and sixty cents and a thirty-barrel cask from thirty to forty-five dollars.

129 Q. What was the price of them about ten years ago?

A. The kegs cost about two dollars and a quarter at that time and the thirty-barrel casks cost about sixty to sixty-two dollars.

MASTER:

130 Q. Is there any danger of burning casks or kegs in pitching by machine?

A. Oh, no; they can't burn the kegs and casks pitching by the machine.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent and, without waiving the exception, proceeds, under protest, to cross-examine.)

Recross-examination by Mr. PARKINSON:

131 Q. The effect of the wind and rain upon pitching would depend upon whether it was done in a sheltered place or not, would it not?

A. Oh, no; you can't pitch by hand in a sheltered place.

132 Q. Do you mean they can't pitch by hand in a sheltered place?

411 A. No, sir; they can't; they get too much smoke and stuff; it must be done in the open air.

132 Q. When pitching by hand were you paid for the days when you were prevented from working by the weather?

A. No, sir; so soon as the rain commenced we had to stop; if we made a quarter of a day or a half a day we were paid for that, and then we had to stop.

Redirect examination by Mr. BANNING:

134 Q. What is your nationality—what country did you come from?

A. From Germany.

MASTER:

135 Q. Were you engaged in the brewing business there and in what capacity?

A. Yes, sir; I was a cooper and was pitching and repairing casks and kegs.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent.)

Emil Welke.

EMIL WELKE, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, age, residence, and occupation.

A. Emil Welke; I am thirty years old; my residence is Chicago, and I am a brewer.

Q. 2. How long have you been in the brewing business?

A. Fifteen years.

412 3 Q. Where; in this country?

A. I was two years in Germany and thirteen years here.

4 Q. Where have you been employed since you have been in this country?

A. The first place I was working at Dubuque, Iowa.

5 Q. Whom are you working for now?

A. For Mr. Gottfried.

6 Q. Did you ever pitch kegs and casks?

A. Yes; I did.

7 Q. Did you ever pitch them in the old way?

A. Yes, sir.

8 Q. Did you ever use the Gottfried machine?

A. Yes; I did.

9 Q. State in which way you get the best results in pitching.

A. By machine.

10 Q. Explain how you get better results by machine pitching.

A. First, if you pitch by hand you have to get the head out, and then you put the head in and draw on the hoops; the pitch gets on too thick, and then you break the hoops and break the heads out; by machine the pitch gets smoother in the keg and you don't break the hoops and break the heads.

11 Q. In which way will the kegs last the longest?

A. By machine.

12 Q. About how much longer.

A. I would not say exactly, but I think from four to five

413 years longer the kegs will last and the casks last from eight to ten years longer.

13 Q. How much pitch is needed to repitch a quarter-barrel keg?
A. A quarter-barrel keg by machine needs a pint and a half, but by hand about a quart and a half.
14 Q. And how much for the casks?
A. By machine you have to take about four gallons and by hand you have to take six.
15 Q. In which way can you pitch kegs or casks the fastest?
A. By machine.
16 Q. How much faster?
A. Well, with six men I can pitch by hand from a hundred and eighty to two hundred kegs in a day, and by machine we pitch with the same number of men from eight hundred to nine hundred in a day, and casks we pitch from fourteen to eighteen a day—that is, thirty-barrel casks by hand, and by machine we pitch about fifty to fifty-five in a day.

(Counsel for the defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

17 Q. Where were you first employed in this country?
A. In Dubuque, Iowa.
18 Q. When?
A. In 1870.
19 Q. How long did you remain there?
414 A. Over a year.
20 Q. What were you doing there?
A. All kinds of work—pitching and working in the cellar; it was only a small brewery, where a man has to do everything.
21 Q. What were you paid?
A. I had thirty dollars and board.
22 Q. Was the pitching done by hand all the time you were there?
A. Yes, sir.
23 Q. It was done by the men employed in the brewery?
A. Yes, sir; and the foreman always helped; we had a few men who helped to roll the casks and the rest was done by the brewers.
24 Q. Where did you work next?
A. At Adam Clabe's, in Dubuque.
25 Q. How long did you work there?
A. Not quite a year.
26 Q. What did you do there?
A. Just the same as in the first place.
27 Q. And at the same wages?
A. When I first came I had twenty-five dollars a month, and then afterwards I had twenty-eight dollars a month.
28 Q. For pitching by hand?
A. Yes, sir.
29 Q. Where were you employed next?
A. From there I went to Belleville, Illinois.

30 Q. How long were you there and what did you do?
A. I was there a year and was pitching and doing other
415 work in the fermenting cellar and in the malt-house; it was only a small house.
31 Q. What were you paid there?
A. I had fifty-five dollars a month and boarded myself.
32 Q. Where were you employed next?
A. From there I came here to Mr. Seipp's.
33 Q. When did you come here?
A. It was in 1872.
34 Q. How long did you work for Mr. Seipp?
A. The first time I worked there about ten months; I went from Seipp's to Bemis', and then I went back again to Seipp's.
35 Q. How long were you there at any one time?
A. The first time I was there a little over ten months.
36 Q. The next time how long?
A. I think it was between seven and eight months; I can't tell for sure.
37 Q. How long were you at Bemis'?
A. I was in Bemis' eighteen months the first time—between seventeen and eighteen months.
38 Q. And how long the next time, and when was the next time?
A. I believe it was only about five months, but I can't tell for sure; I did not stay there very long.
39 Q. Do you know when it was?
A. I think it was in 1876.
40 Q. Where were you after that?
A. I was after that in St. Louis, in Stehle's brewery.
41 Q. How long did you stay there?
416 A. I was there a little over two years—two years and a month or two.
42 Q. After that where were you?
A. I was working in Wanzler's brewery, in St. Louis.
43 Q. How long?
A. About a year.
44 Q. Then where?
A. I came back here to Chicago.
45 Q. In what brewery?
A. In Seipp's malt-house, when I came back from St. Louis.
46 Q. Then where did you work?
A. At Bartholomae and Roessin's brewery.
47 Q. How long were you there?
A. I was working for them about six months; then I went to Schoenhofer's.
48 Q. How long were you there?
A. About six months; I was head man in the cellar.
49 Q. Where did you go next?
A. I went to Gottfried's then.
50 Q. When was that?
A. That was a little over three months ago.

51 Q. What kind of work did you do at these different breweries?

A. At some places I was working in the malt-house and sometimes in the cellar, and pitching and everything.

52 Q. When you were working in the cellar at a brewery were you also part of the time helping about the pitching?

A. Yes, sir; at Seipp's they have men in the cellar who un-
417 derstand the business, and they had to go out and pitch the casks; it is the same everywhere.

53 Q. It was the same at Binz's brewery?

A. Yes, sir.

54 Q. And the same in all the other breweries you were in in Chicago?

A. Yes, sir.

55 Q. And the same in St. Louis?

A. Yes, sir.

56 Q. What wages were you paid in these different breweries?

A. In Schoenhofer's I had eighty dollars.

57 Q. What was your position there?

A. I was head man in the cellar.

58 Q. What were you paid in St. Louis?

A. Sixty-five dollars a month.

59 Q. What are you paid by Gottfried now?

A. Sixty dollars.

60 Q. How was the pitching done in St. Louis?

A. We pitched the kegs by the superheated steam machine, and the casks we pitched by the pitching pan.

61 Q. How was the pitching done in Bartholomae and Roessing's?

A. We pitched by the machine.

62 Q. Did you have any part in the pitching?

A. Yes, sir.

63 Q. What did you do about the pitching?

A. I had to fire up all the kegs and casks.

64 Q. Who helped you?

A. The men from the brewery?

418 65 Q. Was it the same in the other breweries here in Chicago that you worked in?

A. Yes, sir; there were some places that I did not fire up the kegs and casks, but I was helping pitch them.

66 Q. Can you state the number of kegs purchased per year in either of the breweries that you worked in?

A. No, sir.

67 Q. Can you state about the number of kegs they had at any one time?

A. No, sir; all that I can state is that now in Schoenhofer's there are about two hundred and fifty to three hundred casks that they are using, but if they should pitch them by hand they would be broken up, because most of them are half rotten, but they can pitch them by machine. They were pitching them last year yet, and they will use them this winter, I suppose.

68 Q. Didn't you pitch just such casks by the pitching pan in St Louis?

A. Yes, sir; we did; but they were not quite so bad as those here.

69 Q. Do brewers generally think it desirable to keep rotten casks on hand?

A. Certainly it is, because the beer gets a little taste on it in new casks.

70 Q. Do they think it desirable to keep casks if they have become rotten?

A. Well, not if they are too rotten, but if they can pitch them by being careful they are better.

419 71 Q. How were you employed before you came to this country?

A. I was learning the trade there.

72 Q. What was your trade?

A. The brewer trade.

73 Q. What kind of work did you do there in the old country?

A. I was learning the trade and had to do everything.

74 Q. How old were you when you came to this country?

A. I was seventeen.

GEORGE STUPP, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. What is your name, residence, and business?

A. My name is George Stupp; I live in Chicago, and I am a brewer.

2 Q. With whom are you in business?

A. Bartholomae and Leicht's Brewing Company.

3 Q. What is your position in that company?

A. I was in the malt-house for five years, and the last three years I was in the kettle.

4 Q. How long have you been in the brewing business?

A. It goes on twenty-five years.

5 Q. When did you come to this country?

A. I came to this country in 1855 from Germany.

6 Q. Have you ever pitched any kegs or casks?

420 A. Yes; I have.

7 Q. Have you ever pitched them in the old way?

A. Yes, sir.

8 Q. How did you do it in the old way?

A. We loose- the hoops, take the head out, and drive the hoops on again and set them aside so that they would dry out; we had to do this the day before.

9 Q. Did you ever pitch with the machine?

A. Yes, sir.

10 Q. Are you acquainted with the Gottfried and Holbeck invention, namely, the application of heated air under blast to the interior of kegs and casks for the purpose of pitching them, and have you ever used that invention?

A. Yes, sir.

11 Q. How long since you began to pitch kegs and casks with that machine?

A. The first time I used that machine was in '66 or '67; I can't tell exactly whether it was '66 or '67.

12 Q. Where was that?

A. At Huck's brewery, in Chicago.

13 Q. How many years did you use it?

A. Well, we used it as long as we had that machine—till the fire, and after the fire they had that same invention again, and we have had it ever since.

14 Q. State in which way of pitching the best results are obtained.

A. The best results are with the new way of pitching—
421 with the machine; it saves more material and more time; you can do more work than by the old way—by hand pitching.

15 Q. How much material is saved?

A. Well, there is more kegs saved; there won't so many spoil by breaking the heads and hoops and other things as pitching by hand, and then we use less pitch; we use about a pint, not quite a pint, in in a keg by the machine, and in the old way it takes half a gallon; and to my knowledge, my best knowledge, we use about four gallons to a thirty-barrel cask in the old way, by hand, but with the new way, for a thirty-barrel cask, about four or five quarts; that is about all; some need more and some less—between four and five quarts.

16 Q. State about how much faster you can pitch with the machine than by hand.

A. Well, the old way, pitching by hand, we could not pitch more than about eighteen to twenty casks a day, and by the machine we came up to fifty-five in a day with the same number of men. We could pitch in the old way, by hand, with six men, and we had to work pretty hard, two hundred kegs a day, and by machine, with the same number of men, if we commence at seven in the morning and pitch till about five, we could pitch easily from nine hundred to a thousand kegs.

17 Q. Which way of pitching uses up the kegs the fastest?

A. The old way.

18 Q. How much faster?

422 A. The kegs burn so much pitching the old way; we have to light the pitch and they are burned out in no time. By machine we use the kegs three or four times longer than by hand pitching.

19 Q. Do you mean that there is three or four times as much wear and tear on the kegs or casks in pitching in the old way as by machine?

A. Oh, yes.

20 Q. State whether there is any difference in the class of men needed to do the work by hand than by machine.

A. Well, by hand pitching we have to have experienced men—brewers that understand the business—but by machine pitching, if there is one good man amongst five or six common laborers, who can learn the business if they work a half an hour, you can do the work.

21 Q. State whether, when pitching was done by hand in the old way, it was required as one of the qualifications of a man working in the brewery that he should know something about pitching.

(Objected to as leading.)

A. Oh, certainly; we could not use any other kind except experienced men.

22 Q. Did you ever see or use what is known as the pitching pan that is introduced into the cask through the man-hole and used to heat it in that way?

A. No; I never saw that.

23 Q. State how much, in your opinion, the Gottfried and
423 Holbeck invention alone is worth per keg and cask in money, if anything, to any brewer who uses it in the regular, proper, and ordinary way over the old way of pitching.

(Objected to as speculative and otherwise incompetent and irrelevant.)

A. It would be a saving at least on each keg of about twenty-five cents a year; it is more, too, because they hold three times as long as pitching by the old way. By my best knowledge, it is about twenty-five cents on each keg a year of two pitchings; the old way you had to pitch them sometimes four and five times a year.

24 Q. How much on a thirty-barrel cask?

A. That is a saving, to my best knowledge, of about four dollars, or something like that. They hold four or five times longer pitching the new way than pitching the old way.

25 Q. Is pitching by hand the same in different places?

A. It is all the same. I never saw any other way.

26 Q. Is pitching by machine conducted in the same way in different places?

A. Those places that I have seen it they do it just the same as we do it. I don't know how they do it in other places, but as much as I have seen it they do it the same way.

27 Q. In giving the figures which you have do you consider the pipe from the furnace to the keg as stationary or as removable, or does that make any difference?

A. We have a stationary pipe, and I have seen it in many
424 other places, but I don't know whether they have it removable or not. When we want the big casks on there we have to put a big pipe on.

28 Q. Did you ever know of any accidents happening in pitching by the old way?

A. Yes; oh, yes; several of them.

29 Q. State what they were.

A. Well, a couple of men had a hold of the bottom and the fire was started, and then at once it threw both men aside. Some we had to send to the hospital and some were killed, but by the machine I have never known of any accident; but by the old way there was many a time.

30 Q. Do you mean to state that you have known of a man being killed by an accident in pitching in the old way?

A. Yes, sir; a man got killed in Iowa; that was many years ago, and another was here in Chicago, he nearly broke his leg; he got his leg broke, and then I have heard of some others, but we don't take much notice of those things.

31 Q. I mean of your own knowledge?

A. By my own knowledge I never seen anybody killed, but I have heard of it.

32 Q. Did you ever see anybody injured or hurt?

A. Not so long as I was pitching.

(Counsel for defendant objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds under protest to cross-examine.)

Cross-examination by Mr. PARKINSON:

33 Q. Name all the breweries in which you have worked.

425 A. John A. Huck's, George Deal's, in Kankakee, and for Bartholomae and Leicht.

34 Q. During what years did you work in the Huck brewery?

A. I commenced there in 1858 and worked to 1868.

35 Q. What did you do there?

A. I worked in all parts; in the fermenting-room, in the malt-rooms, and at the kettle.

36 Q. Was this your principal work while you were there?

A. Yes, sir; but when we pitched, part of us, the best hands had to go out in the pitching place.

37 Q. What wages were you paid there?

A. When I first commenced there I had fifty dollars a month, and came up to sixty, and then to seventy.

38 Q. Where you had these men pitching by hand, what did each man do?

A. One laid them on the fire and one put the pitch in, and the others took them away and loosened the hoops and put the head in; one laid them on the fire and one put the pitch in, and about four of us had to loosen the hoops and put the heads in again, and one man rolled them so that the pitch gets good inside.

39 Q. Now, where you have these men pitching by the machine, what does each man do?

A. One puts the pitch in, one hangs it on the machine, and three put bungs in and roll them and put them on the slide, and one rinses them with water to cool them off.

426 40 Q. Was the pitching done by hand all the time you were at this brewery?

A. Till about '66 we pitched the casks and kegs by hand. Then this machine came out, and I believe Mr. Huck was the first that bought this machine. I think we had the first pitching machine.

41 Q. What did you pitch on it at first?

A. First we used it for the big casks, and after this we used it for the small casks and for the kegs.

42 Q. When did you begin to use the machine for the kegs?

A. It was in '67 we commenced to use them for pitching the kegs. In '66 we had the first machine there for pitching the casks, and the year afterwards we had it for kegs and half barrels.

43 Q. Have you any means except your memory to fix these dates?

A. No.

44 Q. When were you first asked to state the date at which they began to use the machines or casks, and the date at which they began to use it on kegs?

A. I don't know if I have been asked before or not. I don't think that I was asked. When we used this pitching machine first, as I stated, it was in '66, for casks, and then a year after that we used it for the kegs.

45 Q. How long were you at George Deal's brewery?

A. Three years.

46 Q. What years?

A. From 1869 to 1872.

47 Q. What were you doing there?

427 A. I was foreman there.

48 Q. You saw the pitching done. Will you state how it was done?

A. Well, we had one of those pitching machines for big casks, and our small casks we pitched by hand. It was not at a time when we had the machine. We had a pitching machine for the big casks and the small casks and kegs we pitched by hand.

49 Q. You say that the pitching by hand was done in that brewery by the men employed regularly in the brewery?

A. Yes, sir. There was only one man that was a regular brewer besides me. The others worked in the summer on a farm, and in the winter they came in and worked in the brewery. I had one regular good man besides me.

50 Q. This one man worked in the brewery constantly, did he?

A. Yes, sir.

51 Q. Did you do all kinds of work?

A. Yes, sir.

52 Q. During what years were you at Bartholomae and Leicht's?

A. Well, ever since 1872. When I came back I commenced there.

53 Q. How long did you stay there?

A. I am there ever since; am still there.

54 Q. How were they pitching kegs when you went there?

A. The same way as they are now—by machine.

55 Q. How many machines have they used there during that time?

428 A. Well, we have had no other machine except this pitching machine—the one they had there at first. One was burned out, and this spring we had a stove put in.

56 Q. How many kegs do they keep on hand at Bartholomae and Leicht's each year?

A. That is something I can't tell. I believe they don't know

this themselves. There are so many going out and in that I don't think any brewer in the city can tell.

57 Q. Do you know about how many they buy each year?

A. No; I do not.

58 Q. Could you state how many any one of the other breweries that you were in had or how many they bought a year?

A. As long as I was in Kankakee we had two hundred new kegs in the three years; that was a small brewery. How many kegs they have here I can't say.

59 Q. You can't tell how many kegs they kept on hand in the Kankakee Brewery?

A. No; I don't know; numbers of them were out in the country and I never kept no track of them and I cannot say how many there were.

60 Q. What means have you of knowing what the average duration of a keg or a cask is?

A. Well, we have kegs in our brewery yet which I know they have had for at least seven or eight years and more, too. We have kegs in use that came from Huck's brewery that was burned up in the great fire; the kegs were outside with the customers,
429 and we have some of them yet. Kegs will hold at least seven or eight years.

61 Q. Can you tell how many times those Huck kegs have been used that you have on hand?

A. They are in regular use and they are washed and used every time they come in.

62 Q. That is not my question. Can you tell how many times they have been filled and sent out?

A. As soon as they come in they are sent out. If they come in to-day they are filled and go out to-morrow. I can't tell how many times they are used.

MASTER:

63 Q. About how many times are your kegs ordinarily filled and emptied during a year?

A. They are filled three or four times a week. If they are shipped in the country it takes sometimes a week before they come in again, but if used in the city trade they come in regularly every other day.

Mr. PARKINSON:

64 Q. If the kegs are shipped into the country they sometimes go ten times as long without being filled as if they were being used in the city.

A. Sometimes; yes, sir; and sometimes not.

65 Q. How long have you known Mr. Gottfried, the complainant?

A. I have known him since '67. He was foreman at the time I first got acquainted with him at Seipp's brewery.

66 Q. Did you say '67 or '57?

A. It was '57 or something like that.

67 Q, You have testified in this case once before a few
430 weeks ago, have you?

A. Yes, sir.

68 Q. Who were present when you testified?

A. Two gentlemen—I don't know who they were—and this gentleman, Mr. Banning, and this gentleman, the notary, and Mr. Gottfried. There were some other brewers and workmen in breweries here. One was Mr. Thienger and the other was Joseph Meier. They are working in our brewery.

69 Q. Were there others here that you did not know by name?

A. I have seen nobody; we came together and went off together, and I don't know who else was here.

MASTER:

70 Q. In pitching by hand is the work done in a building or out-of-doors?

A. Always out-doors.

71 Q. Why is this?

A. I don't know; I never seen it done in any other way. If you pitch by hand or by machine you generally pitch outside. Pitching in the new way there is no smoke and it does not make much difference, but by the old way we always pitch outside.

Redirect examination by Mr. BANNING:

72 Q. Did you ever at any time count the number of kegs that you pitched in a given length of time? If so, state about it.

A. When we were pitching the old way, by hand, we never
431 could go up over two hundred a day—six of us—and by the new way if we commenced at seven and worked till five in the evening we could easily pitch a thousand kegs.

73 Q. Did you ever count for an hour?

A. It was about two months ago we pitched—four of us; we had two men short; we could not spare the men—and four of us commenced at ten o'clock and pitched till half past eleven, and we pitched two hundred and fifty-five in an hour and a half—four of us.

74 Q. Were you working in the ordinary way or trying to see how many you could do?

A. We have just worked the same as we would pitch every other day.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Recross-examination by Mr. PARKINSON:

75 Q. How did you happen to keep account of the number you pitched in this hour and a half?

A. Well, they were piled up and the boss in the cellar came up and wanted to see how much we pitched a day. There were only four of us, and he counted the kegs. In the evening we have to lay them in the water, and I counted them myself and there were that number.

76 Q. Before you began the foreman asked you to see how many you could pitch in an hour?

A. No; not the foreman, but the man who was the foreman
432 in the cellar; he counted them when we were done and said you have worked pretty lively, and we asked how many there were, and he said two hundred and fifty-five, and then I laid them in the water in the evening and I counted them over again and there were two hundred and fifty-five.

Redirect examination by Mr. BANNING:

77 Q. Did he tell you before you did the work to see how many you could do?

A. No.

78 Q. But simply counted them after the work was done?

A. Yes, sir; we did not see him until the evening; we were done when the boss came up and said, Boys, are you done?

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

79 Q. Didn't the man from the cellar say to you when you began that he wanted to see how many you could pitch in a day?

A. Oh, no; we had no talk whatever; we had not seen any of them until we were nearly through; then the boss came up and looked at us when we put our fire out and he counted them.

80 Q. How many kegs did you put on the machine at a time?

A. Two.

81 Q. You had a double spout?

A. Yes, sir; we hung one on each end.

433 *William Roesseler.*

WILLIAM ROESSLER, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, residence, and occupation.

A. William Roessler; residence, Chicago; occupation, brewer.

2 Q. For whom are you now employed?

A. Mr. Gottfried.

3 Q. How long have you been in his employ?

A. Eight years.

4 Q. What is your position in his brewery?

A. Foreman.

5 Q. How long have you been foreman?

A. Five years.

6 Q. How long have you been in the brewing business?

A. Eighteen years.

7 Q. In this country or in the old country?

A. In this country twelve years, and eight years in the old country, in Germany.

8 Q. Did you ever pitch kegs and casks?

A. Yes, sir.
9 Q. By hand?
A. Yes, sir.
10 Q. How long?
A. About eighteen years ago.
11 Q. And by machine?
A. By machine about nine years ago.
12 Q. Did you ever help to pitch many kegs and casks in the old way?
A. Yes, sir; I pitched many kegs in the old way.
434 13 Q. Are you acquainted with the Gottfried and Holbeck invention for pitching, and have you ever used it?
A. Yes, sir.
14 Q. State in what way you get the best results, in pitching by hand or by machine.
A. By the machine.
15 Q. Explain why you say you get better results.
A. Well, there is a saving in pitch and a saving in work and time, and there is not so much repairing if you pitch by machine.
16 Q. About what is the saving for kegs?
A. The saving in pitching the kegs with the machine is worth about thirty or thirty-five cents a year if you use them in a home or city trade.
17 Q. And what is the saving for casks?
A. It makes a difference how big the casks are; from three to four dollars.
18 Q. You are speaking of the saving by the use of the Gottfried and Holbeck invention over the old way of pitching, I understand?
A. Yes, sir.
19 Q. How much longer will kegs and casks last when pitched by the machine?
A. Well, about three or four times longer.
20 Q. State about how much faster you can pitch by machine than by hand.
A. Well, we pitch about five times faster by machine than we did by hand.
21 Q. With how many men?
A. Well, the same men.
435 22 Q. About how much pitch is needed to repitch a quarter barrel keg by hand, and how much by machine?
A. Well, you need about a quart or a quart and a pint if you pitch by hand, but pitching by machine you need a little over a pint.
23 Q. And how much for a thirty-barrel cask?
A. Well, about three or four gallons pitching by the machine, and pitching by hand you need from seven or eight gallons.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

24 Q. What brewery besides Gottfried's have you worked in in this country?

A. I worked for Mr. Seipp and in St. Louis; I worked for Jo. Schneider.

25 Q. How long did you work in St. Louis and in what years?

A. From '72 to '74, and pretty near to '75.

26 Q. How was the pitching done there?

A. It was done by the St. Louis patent, superheated steam.

27 Q. A coil of pipe with steam passing through it, and the coil heated in the furnace, was it?

A. Yes, sir.

28 Q. Was that one of the larger breweries in St. Louis?

A. Well, it was a middle-sized brewery.

436 29 Q. What is your principal business at Gottfried's brewery?

A. I am foreman.

30 Q. How long have you been foreman there?

A. Five years.

31 Q. What were you before that?

A. I was in Seipp's brewery.

32 Q. What was your position in Seipp's brewery?

A. I was the first time in the wash-house and then in the cellar.

33 Q. Up to the time you became foreman in Gottfried's brewery what was your position there?

A. I was in the cellar, and went from one place to the other.

34 Q. How many kegs do they buy a year in Gottfried's brewery?

A. Well, about fifteen or sixteen hundred kegs in a year; the business is improved, and is three or four times bigger than four or five years ago.

35 Q. How many kegs do they keep on hand there?

A. That is pretty hard to tell; of course, when the kegs come in they are cleaned up and sent off.

36 Q. Can you state how many kegs they have on hand?

A. No; not sure.

37 Q. Do you buy the kegs there?

A. No.

38 Q. Did you testify here some weeks ago *here* about this same matter?

A. Yes, sir.

437 *August Olinger.*

AUGUST OLINGER, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, residence, and occupation.

A. August Olinger; I am a brewer, and reside in Chicago.

2 Q. With whom are you engaged?

A. Keeling Brewing Company.

3 Q. What is your position in that company?

A. I am a brewer.
4 Q. How long have you been engaged in the brewing business?
A. Sixteen years.
5 Q. In this country?
A. Yes, sir.
6 Q. Have you ever pitched kegs and casks?
A. Yes, sir.
7 Q. Did you ever pitch them in the old way?
A. Yes, sir.
8 Q. Did you ever pitch them with a machine?
A. Yes, sir.
9 Q. Are you acquainted with the Gottfried and Holbeck invention for pitching kegs and casks, and have you ever used that invention?
A. Yes, sir.
10 Q. State in which way of pitching the best results are obtained.
A. In the new way—by Gottfried and Holbeck's patent.
11 Q. State in which way you can pitch the fastest.
438 A. By the new way.
12 Q. How much faster?
A. Four times.
13 Q. About how much can you do with six men in a day with the machine?
A. About eight or nine hundred, and with hand two hundred.
14 Q. In which way do you use the most pitch?
A. In the old way.
15 Q. In which way are the kegs and casks used up the fastest?
A. In the old way.
16 Q. About how much faster?
A. I guess about four times.
17 Q. Do you mean that there is three or four times as much wear and tear and injury to the kegs?

(Objected to as leading.)

A. Yes, sir.
18 Q. What kind of men are required in pitching by the old way and what kind by the new way?
A. In the old way you must have coopers and brewers, but in the new way you can use any man.
19 Q. Is there any difference in the wages paid the different kind of men?
A. Yes, sir.
20 Q. In which way are they paid the most?
A. The old way.
21 Q. State how much, in your opinion, the Gottfried and Holbeck invention alone is worth to any brewer who uses it in the
439 usual and ordinary way, in dollars and cents, if anything, per keg and cask over the old way of pitching.

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. From twenty-five to thirty cents.
22 Q. For each pitching?
A. No; for wear and tear for the year of two pitchings.
23 Q. And how much per cask?
A. Five dollars for a year.
24 Q. In giving the figures have you considered the pipe from the furnace as removable or stationary?
A. It is all the same.
25 Q. Did you ever see or use what is known as the pitching pan that is introduced through the man-hole and used to pitch casks in that way?
A. Yes, sir.
26 Q. Did you ever use it?
A. Yes, sir.
27 Q. State how much, in your opinion, the Gottfried and Holbeck invention is worth per cask over this pitching pan.

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. About double.
28 Q. That is two or three dollars?
A. Yes, sir; that much any way.
29 Q. Where does the work have to be done in pitching by hand?
A. Outside is better.
440 30 Q. Did you ever know of casks being burned up in pitching in the old way?
A. Yes, sir.
31 Q. Did you ever know of any accidents or injuries to the men?
A. No; not personally.

MASTER:

32 Q. You have seen no accidents personally?
A. No.
33 Q. State whether pitching by hand is the same in different States or not.
A. Yes, sir.
34 Q. And is it the same with the machine in different places?
A. Yes, sir; with the Gottfried and Holbeck machine they pitch the same way in Cincinnati as they do here.
35 Q. Did you ever work at Cincinnati?
A. Yes, sir.
36 Q. At what brewery?
A. Moerlin's.
37 Q. Did you ever pitch kegs and casks there?
A. Yes, sir.
38 Q. When was that?
A. In 1871 and '74.

MASTER:

39 Q. What kind of machine did they use there?
A. I guess that was the Holbeck machine; we pitched with a blower and hot air.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

441

Cross-examination by Mr. PARKINSON:

40 Q. In what breweries have you been employed?
A. I was foreman for Seipp from '76 to '78, one and a half years.
41 Q. What was the first brewery you worked in?
A. In this country, John A. Huck's.
42 Q. What years?
A. '66 to '69.
43 Q. In what capacity?
A. I worked sometimes in the kettle and one time in the malt-house and in the fermenting rooms.
44 Q. And did you also assist about the pitching when pitching was to be done?
A. Yes, sir; at first we pitched by hand, and in '68 and '69 we pitched by machine.
45 Q. You helped pitch by hand and also helped pitch by machine, did you?
A. Yes, sir; we pitched first by hand, and then the patent came up and we used that machine.
46 Q. Where did you work next?
A. I next worked in Rochester, at Bartholomae's.
47 Q. During what years?
A. That was about '69 or '70; I worked there about eight months.
48 Q. What work did you do there?
A. I was the first man in the cellar.
49 Q. How was the pitching done there?
A. At that time it was a small brewery, and all the men helped together; we must work in every capacity.

442

50 Q. Where did you work next?
A. Next at New York.
51 Q. In what brewery?
A. Fritz and Schaeffer's.
52 Q. During what years did you work there?
A. I worked half a year there in 1870; in the malt-house.
53 Q. How did they pitch their kegs?
A. I think they pitched by machine, but I don't know, as I worked in the malt-house.

MASTER:

54 Q. Did you help there about the pitching?
A. No, sir.

Mr. PARKINSON:

55 Q. Where did you work next?
A. At Cincinnati, for Moerlein.
56 Q. In what capacity were you employed?
A. The first winter I worked in the malt-house and the next summer and winter in the pitching yard.
57 Q. When not pitching, what other kind of work were you doing there?
A. Working in the cellar, and one winter I worked in the pitching gang.
58 Q. Where did you work next?
A. At Jackson's brewery, in Cincinnati.
59 Q. How long did you work there?
A. About a year and a quarter.
60 Q. In what capacity?
A. In the malt-house and in the cellar.
61 Q. Do any pitching there?
A. Yes, sir.
443 62 Q. Where did you work next?
A. At Chicago, for Seipp.
63 Q. In what capacity?
A. The first two months I helped pitch there in the pitching yard; then I was foreman in the malt-house for two years.
64 Q. Who else worked at pitching at the same time you were at the Seipp brewery?
A. We had a machine from Mr. Gottfried.
65 Q. What other men worked at pitching with you in Seipp's brewery the last time you were there?
A. I did it myself. I was foreman and I got my men there in the yard.
66 Q. Can you name the men?
A. No; I can't tell that.
67 Q. Can you state how many kegs they bought a year in any of the breweries you were in?
A. No, sir; I can't tell that exactly.
68 Q. Can you state how many kegs they kept on hand?
A. No; you see the kegs came in in the morning and went out again, and I could not tell.
69 Q. Can you state how many kegs were owned at any one time?
A. No, sir; I can't tell that; Mr. Seipp can't tell that himself.
70 Q. Where did you work after this last time you have mentioned working at Seipp's?
A. In Boston, at Burkhart's.
71 Q. At what years?
A. It was in about 1880.
72 Q. What work did you do there?
444 A. I was foreman there.
73 Q. How was the pitching done there?
A. By superheated steam.
74 Q. Where did you work next?

A. The next in Quincy, Illinois, at Dick Brothers.
75 Q. During what years?
A. That was in about '81.
76 Q. What did you do?
A. I was foreman.
77 Q. You saw the pitching done there?
A. Yes, sir; it was done with a Gottfried and Holbeck machine.
78 Q. You pitched all the kegs and casks on that?
A. Yes, sir.
79 Q. Did you work at pitching?
A. Yes, sir; I attended to it.
80 Q. And as foreman you had to oversee the pitching?
A. Yes, sir.
81 Q. Did you work at it yourself?
A. No, sir; I only saw that it was done right.
82 Q. Where did you work next?
A. At Best's Brewery Company, at Milwaukee.
83 Q. When was that?
A. That was in '82.
84 Q. In what capacity?
A. I was superintendent there of the whole business.
85 Q. How were they pitching there?
A. With a Gottfried and Holbeck machine; we pitched, some days, four thousand kegs in one day with one stove and with one fan; we had three pipes and on every pipe four kegs; I can't
445 tell exactly how many more we had; you can find that out from the cooper; his name is Ottoman.
86 Q. Did you see these kegs pitched?
A. Yes, sir; but I did not count them; he pitches every day about fifteen or sixteen hundred up there.
87 Q. Where did you work next?
A. At the Keeley Brewing Company.
88 Q. In what capacity?
A. I am the brewer.
89 Q. How is the pitching done there?
A. We do it with the Gottfried machine.
90 Q. Are you a chemist?
A. Oh, no.
91 Q. Did you testify here before?
A. Yes, sir; a few weeks ago.
92 Q. About the same matter?
A. Yes, sir.
93 Q. The dates you have given have been given from memory, have they?
A. Yes, sir.

William Koehle.

WILLIAM KOEHLE, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, residence, and occupation.
A. William Koehle; my residence is Chicago, and my occupation is a brewer.
2 Q. In whose employ are you now?
A. I work for Mr. Gottfried.
446 3 Q. How long have you been in the brewing business?
A. Eighteen years.
4 Q. How long have you been in this country?
A. Sixteen years.
5 Q. Did you ever pitch kegs and casks?
A. Yes, sir.
6 Q. Did you ever pitch them in the old way?
A. Yes, sir.
7 Q. Did you ever pitch them in the way with the machine?
A. Yes, sir.
8 Q. Are you acquainted with the Gottfried and Holbeck invention for pitching kegs and casks, and have you ever used that invention?
A. Yes, sir.
9 Q. State in which way you get the best results in pitching.
A. The best way is the new way—by the machine.
10 Q. State in which way you can pitch kegs and casks the fastest.
A. The new way.
11 Q. How much faster?
A. When I pitch one by hand then I pitch five by machine.
12 Q. State in which way the kegs and casks are used up the fastest.
A. The old way.
13 Q. How much faster are they worn out?
A. About four or five times faster.
14 Q. How much pitch is required to repitch a quarter-barrel keg by the machine?
447 A. By the pitching machine a pint and a half, and by the old way a quart.
15 Q. And how much is required to repitch a thirty-barrel cask by the machine?
A. By machine about four gallons, and by the old way about six gallons.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

16 Q. Where did you first work when you came to this country?
A. At Huck's Brewing Company, in Chicago.
17 Q. In what capacity?
A. Everything, when I came to this country. Sometimes I worked outside and sometimes in the cellar—every place.
18 Q. Did you work at pitching?
A. Yes; I did.
19 Q. What year did you begin working at Huck's brewery, and how long did you stay?
A. In 1868; and I stayed there and pitched till the big fire in 1871, I guess.
20 Q. Then where did you work?
A. Then I worked out in Bartholomae and Leicht's.
21 Q. How long did you work there?
A. I worked there from '72 to '77.
22 Q. What work did you do there?
A. I was the kettleman and the first man in the cellar.
23 Q. Did you also do pitching when they were pitching?
448 A. Yes, sir; we always must get out when they began to pitch—all the cellar boys.
24 Q. You say the pitching was done by hand or by machine?
A. We pitched by machine—Gottfried's patent.
25 Q. Where did you work next?
A. At Gottfried's.
26 Q. And have worked there ever since?
A. Yes, sir.
27 Q. In what capacity have you worked there?
A. First man in the cellar.
28 Q. And you have helped do the pitching have you?
A. Yes, sir.
29 Q. What are you paid as a salary?
A. Seventy dollars a month.

Adjourned until Tuesday morning, July 10, at nine o'clock a. m.

Met Tuesday morning at nine o'clock, pursuant to adjournment.

Joseph Meier.

JOSEPH MEIER, a witness, produced, sworn, and examined on the part of the complainant, testifies as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, residence, and occupation.
A. Joseph Meier; my residence is Chicago, and I am a cooper.
2 Q. How long have you been in the business of a cooper?
449 A. Twenty-three years.
3 Q. Where—in this country or in the old country?
A. I commenced in this country and learned in this country.
4 Q. Where are you now employed?
A. For Bartholomae and Leicht.

5 Q. In what capacity?
A. I am their cooper there.
6 Q. How long have you been their cooper?
A. Since I learned my cooper trade—twenty-three years. I was with the old man before the fire.
7 Q. You have been with this firm or this brewery all the time?
A. Yes, sir.
8 Q. Have you ever had any experience in pitching kegs and casks?
A. Yes, sir.
9 Q. How many years?
A. Since I commenced the cooper trade.
10 Q. Did you ever pitch in the old way?
A. Yes, sir.
11 Q. Describe how you did it.
A. Well, we burned them up with a hot iron; that is the way we did before we got the machine.
12 Q. Did you take the heads out?
A. Yes, sir; and put a red-hot iron in to heat them.
13 Q. Did you ever pitch with a machine?
A. Yes, sir.
14 Q. Are you acquainted with the Gottfried and Holbeck invention, namely, the application of heated air under blast to the interior of kegs and casks for the purpose of pitching them by
450 means substantially as described in their patent of May 3, 1864, and have you ever used that invention?
A. Yes, sir.
15 Q. In which way of pitching do you get the best results?
A. With the machine.
16 Q. Please explain why.
A. Because pitching with the machine there will be a saving of the barrel, a saving of time and work, and the work is a good deal better than with hand; the machines make the pitch more smooth and it keeps longer; you don't need so much pitch neither.
17 Q. How much less pitch does it take in pitching by machine than by hand for quarter-barrel kegs?
A. It takes about a pint in a new keg—not quite a pint—and in the old way it takes pretty near a quart.
18 Q. How much does it take in a thirty-barrel cask to repitch it?
A. It won't take very much; with the machine it will take about half a gallon; some we pitch without putting in new pitch, because the pitch never gets burned out with the machine. The old way it will take about a gallon and a half or two gallons.
19 Q. How much for repitching a quarter-barrel keg by the machine?
A. Well, it is very little; I can't say exactly; about half a pint—that is, by machine. By hand it will take from over a quart, because it burns out so much.
20 Q. In which way are the kegs used up the fastest?
451 A. If you pitch them by hand.
21 Q. How much faster?
A. Well, about about two or three times faster.

22 Q. Do you mean that there is two or three times as much wear and tear on a keg and cask?

(Objected to as leading.)

A. Yes; sure.

23 Q. In which way can you pitch the fastest?

A. With the machine.

24 Q. How much faster?

A. Oh, three times faster or pretty near four times.

25 Q. In what way are the kegs and casks injured in pitching in the old way?

A. Because they burn up too much; they burn up too much where the fire comes out, and then on the bottom—the pitch will be stiff on the bottom and gets fast there, and they never can rinse it so well as by machine.

26 Q. Did you ever see or use what is known as the pitching pan?

A. I never saw pitching with the pan.

27 Q. State how much, in your opinion, the Gottfried and Holbeck invention alone is worth to any brewer, who uses it in the regular and ordinary way, in money per keg and cask, if anything, over the old way of pitching?

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. Well, I think it will save on a barrel about thirty or thirty-five cents, pitching by the machine than with hand, a year, and for a cask it is one-half so much—that is, about six or seven dol-
452 lars in a year, and they have to be pitched only once.

28 Q. In pitching by hand in the old way did you ever know of any accidents to happen?

A. Oh, yes; you get a good deal more hurt pitching by hand.

29 Q. Did you ever know of any man getting hurt?

A. Sure I did.

30 Q. Of your own knowledge?

A. Yes, sir.

31 Q. Did you ever know of casks being burned up and destroyed in pitching by the old way?

A. They didn't do it by me, but I can say what others told me.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds under protest to cross-examine.)

Cross-examination by Mr. PARKINSON:

32 Q. Whom did you ever see hurt in pitching by hand?

A. I can't tell exactly; it was once at Bartholomae and Roessing's; I pitched there a good many times, and we had had that day a pretty hard wind, and the man could not get a fire out any more, and so he had to turn the barrels over, and the fire caught him on the clothes and burned pretty near all his clothes up; that is what I know, and it burned him on the hand too.

MASTER:

33 Q. Who was this?
A. That was Bartholomae himself—Frank Bartholomae.

Mr. PARKINSON:

453 34 Q. What were you doing there when this took place?
A. I was not over there at first, but when he was burned he came over to Mr. Huck's, and he told us to go over there, and we had to go over and pitch because he was afraid to commence again on it.
35 Q. Now, whom did you ever see hurt when you were present yourself?
A. Well, I can't tell the men, as that was a good many times; some were burned on the foot and some on the hand, but it is a hard thing to tell the names; I don't know that myself.
36 Q. Did you see them get burned yourself?
A. Yes, lots of times.
37 Q. Can you state the name of a single man that got hurt?
A. That is a hard thing, as that was before the war, and it is a hard thing to tell.
38 Q. How long have you been a cooper?
A. Since twenty-three years.
39 Q. Have you worked in the brewery trade all that time?
A. Yes, sir; all that time.
40 Q. Where did you work first?
A. Only by the old man's, John A. Huck's.
41 Q. In what years?
A. You might count that back yourself. It is twenty-three years ago since I commenced there; that is before the fire.
42 Q. You stayed there how long?
A. Twenty-three years; up to the big fire and after the
454 big fire Mr. Bartholomae and Leicht started that same business on the North Side, and I commenced there again.
43 Q. Have you been with Bartholomae and Leicht ever since the fire?
A. Yes, sir; because Mr. Bartholomae was in that business and Mr. Leicht came in before the fire—about fourteen days before the fire.
44 Q. Ever since you have been with Bartholomae and Leicht they have done their pitching by machine?
A. Yes, sir.
45 Q. Their kegs and all their casks?
A. Yes, sir.
46 Q. Have you worked at the pitching each year?
A. Yes, sir; from one year to the other.
47 Q. Who else besides you has been employed in pitching there?
A. A good many; just as they got them in. They change a good many times, but I have been there all the time. You know you can use any men to pitch by the machine—hostlers or any others.

48 Q. How many kegs do they buy a year at Bartholomae and Leicht's?

A. That is a hard thing for me to tell you, because I never asked them; I see lots coming in, but I can't tell how much.

49 Q. Do you know how many they keep on hand?

A. Between three and four thousand.

50 Q. But you can't tell how many they buy each year?

A. No; I can't say that exactly; they buy lots of them. No, I can't tell; I must tell a story if I tell that.

455 51 Q. You have no personal knowledge of the number bought?

A. No.

52 Q. You testified here a few weeks ago about the same matters that you are testifying to now, did you?

A. Yes, sir.

53 Q. You came up here and made these same statements?

A. Yes; I did.

54 Q. How long have you known Mr. Goottfried?

A. I have known Mr. Gottfried—I never spoke with him, but I knew him; and Mr. Holbeck, I knew him as soon as he came out with the machine; and Mr. Gottfried, I never knew him before to speak — since he came up to the brewery. I never spoke with him, but I knew him; and Mr. Holbeck was a good many times around the brewery.

55 Q. When was it Mr. Gottfried first came to the brewery and talked with you?

A. Well, that is six or seven weeks ago.

Casimer Thienger.

CASIMER THIENGER, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. Banning:

1 Q. State your name, residence, and business.

A. Casimer Thienger; my residence is 117 Lincoln avenue, Chicago, and I am a brewer.

2 Q. How long have you been a brewer?

456 A. Well, it is over twenty-five years.

3 Q. How long in this country?

A. Twenty years.

4 Q. What country did you come from?

A. Germany.

5 Q. Did you ever pitch kegs and casks?

A. Yes, sir.

6 Q. Did you ever pitch them in the old way by taking out their heads?

A. Yes, sir.

7 Q. Did you ever pitch with the machine?

A. Yes, sir.

8 Q. Where are you now employed?

A. I am employed in the Bartholomae and Leicht Brewing Company.

9 Q. How long have you been with them?

A. Over five years.

10 Q. Are you acquainted with the Gottfried and Holbeck invention for pitching kegs and casks by means substantially as described in their patent of May 3d, 1864, and how have you used it?

A. Yes, sir; I used it many times.

11 Q. In which way of pitching do you get the best results?

A. By machine.

12 Q. Please explain why.

A. Because by hand pitching the barrels burn too much on the bottom and on the head and then the pitch can't stay and don't stick, but by machine it all gets smooth; the heat is all the
457 same in the whole barrel; it makes no difference whether it is a keg or a cask, the pitch all gets smooth.

13 Q. In which way are the kegs used up the fastest?

A. By hand.

14 Q. How much faster are they used up by hand pitching?

A. Well, two or three times faster.

15 Q. In which way can you pitch the fastest?

A. In the new way.

16 Q. How much faster?

A. Three times faster.

17 Q. About how many kegs can you pitch in a day with six men, in the old way?

A. About a hundred and fifty to two hundred.

18 Q. And about how many can you pitch with the same number of men in a day with the machine?

A. Nine hundred.

19 Q. Did you ever see or use what is called the pitching pan?

A. I saw it once, but I don't like it; it is worth nothing?

20 Q. Where did you see it?

A. In Chicago.

21 Q. At what brewery?

A. Otto Bierlie's.

22 Q. Did you see it work?

A. Yes, sir; I worked it myself.

23 Q. How did it work?

A. It was worth nothing; it takes too long.

24 Q. How long does it take?

A. It takes twice as long to get the heat in.

458 25 Q. State how much, in your opinion, the Gottfried and Halbeck invention alone is worth to any brewer who uses it in the usual and proper way, per keg and per cask, over the old way of pitching.

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. Well, it is worth for every keg thirty-five cents a year, and for casks six or seven dollars.

26 Q. When you say it is worth thirty-five cents per year per keg do you mean for one or two pitchings?

A. Well, I say you pitch kegs twice a year and casks you pitch once.

27 Q. How much is this machine worth, in your opinion, in pitching casks over the pitching pan?

(Objected to as speculative and as otherwise incompetent and irrelevant.)

A. The pitching pan is worth nothing.

28 Q. Did you ever know, of your own knowledge, of casks being burned up when pitched by the old way?

A. Yes; I have seen that many times. I have seen many times the head fall in and the man burn his face and his clothes and everything, and has to stay out three or four months in the hospitals; sometimes it burns his face and sometimes his hands; I have seen many times that.

29 Q. Did you ever know of any accident to happen in pitching by the machine?

A. No; I didn't.

459 (Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

30 Q. During all the time you have been at Bartholomae and Leicht's have you been engaged in pitching whenever they have pitching to be done?

A. No; I helped them; I was not engaged; I helped them.

31 Q. How many machines do they use?

A. Just one.

32 Q. How many kegs do they put on it at a time; do they have two or three spouts?

A. Two.

33 Q. Where did you work before you went to Bartholomae and Leicht's?

A. I worked over in Seipp's brewery.

34 Q. During what years?

A. Over twelve years I worked there.

35 Q. What was your position there?

A. I worked in the brewery, and I had to help to pitch; I pitched many times.

36 Q. Did you ordinarily help pitch when they were pitching there?

A. No; not every time, but many times.

37 Q. Where did you work before that?

A. Before I came to Seipp's I didn't work in this country.

38 Q. You worked abroad?

A. Yes, sir; in Germany.

39 Q. Did you help pitch kegs by hand there?

460 A. Yes, sir; I didn't use the machine in Germany; I didn't see one.

40 Q. Did you work at Seipp's before they had a machine there?

A. Yes, sir.

41 Q. Did you help pitch kegs there?

A. I helped pitch kegs and casks, too.

42 Q. Can you tell how many kegs they buy a year at any of the breweries that you have worked in?

A. No; I can't tell that.

43 Q. Can you tell how many kegs they kept?

A. No; I can't tell that; sometimes they buy three times — more, and sometimes not so many as other years; that all depends upon the business.

44 Q. You have nothing to do with the buying of the kegs?

A. No; I have nothing to do with that; I just can tell that he has to buy lots more than before he got the machine.

45 Q. With the machine used at Bartholomae and Leicht's do you put on a bigger pipe when you are going to pitch casks?

A. Yes, sir; we have a larger pipe.

46 Q. How was it with the machine that they used at Seipp's when you went there; did they have a big pipe?

A. Yes, sir; for casks; but for pitching kegs we had a small pipe.

47 Q. When you were going to pitch casks you took off the small pipe and put on the big one?

A. Yes, sir; and we put on another top on the furnace.

461 48 Q. It is the same at Bartholomae and Leicht's?

MASTER:

49 Q. You have referred to accidents that have taken place in hand pitching; did you see those yourself?

A. Yes, sir; I saw them many times myself.

50 Q. At what breweries?

A. In Seipp's and in Brand's, too.

51 Q. Were you present when the men were hurt, or did you see them after they were hurt?

A. I saw them when they were hurt and after that, too.

52 Q. Did you see them when they were pitching and when the fire came out and burned them?

A. Yes, sir.

53 Q. At these three breweries that you have mentioned?

A. I worked at over three; at Brand's and Seipp's and Bartholomae and Leicht's, and I worked at Sand's Brewing Company before the fire, and Bierlie's brewery, too. I have seen no one hurt in Bierlie's, but I have in Seipp's and Sand's, and in Germany, too.

Mr. PARKINSON:

54 Q. What years did you work in Sand's brewery?

A. It was in '69.

55 Q. What year did you work in Bierlie's?

A. In 1868.

56 Q. How was the pitching done in this brewery.
A. We pitched by hand there.
57 Q. Was that in Chicago?
A. Yes, sir; before the fire.
462 58 Q. Did you help do the pitching in these breweries?
A. Yes, sir.

Redirect examination by Mr. BANNING:

59 Q. You said that he bought more kegs after he got the machine than before?
A. No; I say he bought more before he had the machine.
60 Q. Is that what you mean?
A. Yes, sir.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Recross-examination by Mr. PARKINSON:

61 Q. What did you have to do with buying the kegs?
A. I have nothing to do with that.
62 Q. How many did they buy before they got the machine?
A. Lots more than when we had the machine.
63 Q. That is not an answer to my question. State how many they bought before and how many they bought after per year, if you can.
A. He bought twice — more before we had the machine than after; I can't tell the number; that is not my business. Some years he bought a thousand, some years eight hundred, but I don't know exactly how many; I have nothing to do with that.

463 *Ferdinand Steiner.*

FERDINAND STEINER, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. What is your name, residence, and business?
A. My name is Ferdinand Steiner; my home is Chicago, and my business is a brewer.
2 Q. How long have you been in the brewing business?
A. I have been in the brewing business over thirty years.
3 Q. In this country or the old country?
A. In the old country and this country.
4 Q. How long have you been in this country?
A. Thirty years.
5 Q. Where are you now employed?
A. In Gottfried's Brewing Company.
6 Q. How long have you been employed there?
A. That is, next month three years.
7 Q. Did you ever pitch kegs and casks?
A. Yes, sir; I did.

8 Q. Did you ever pitch them in the old way?
A. Yes, sir.
9 Q. Did you ever pitch them with Gottfried's machine?
A. Yes, sir; twenty years ago, in Seipp's.
10 Q. Do you mean that you pitched kegs with Gottfried's machine twenty years ago?
A. We pitched big casks at that time at Seipp's.
11 Q. In which way of pitching did you get the best results?
A. With the machine.
12 Q. Explain how and why.
A. Well, the casks hold longer; you can do more work; you don't need so much pitch, and the pitch keeps better.
464 13 Q. How much faster can you do the work?
A. About four times faster with the machine.
14 Q. In which way do the kegs and casks wear out the fastest?
A. The kegs and casks wear out the fastest in pitching by hand, because there is all the time fire in it.
15 Q. How much faster?
A. If you pitch with hand the kegs get broken and burned in three or four years' time; it will go three or four times longer with the machine.
16 Q. How much pitch does it take to repitch a quarter-barrel keg with the machine?
A. Well, it takes—I guess it don't take a pint, because the pitch runs out and you use not a pint.
17 Q. How much in the old way?
A. Pretty near a quart.
18 Q. How much pitch does it take to repitch a thirty-barrel cask with the machine?
A. It takes about a gallon and a half.
19 Q. And how much by hand?
A. It takes from two and a half to three gallons.
20 Q. Did you ever see casks burned up in pitching in the old way?
A. I did; yes, sir.
21 Q. Where?
A. In Chicago, in Schmids, Katz and Levant's brewery before the fire.
22 Q. Did you ever see anybody get hurt in pitching by the old way?
A. Yes, sir.
23 Q. Did you see them yourself?
465 A. I saw them myself.
24 Q. Did you ever see any accidents happen in pitching with the machine?
A. Not as I know of.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

25 Q. What brewery did you first work at in this country?
A. In New York, in Erbert Riche's, about thirty years ago; it is at number- 55 and 57 Forsythe street.
26 Q. Did you ever do the pitching there?
A. Yes, sir; by hand.
27 Q. What was your regular business there?
A. I made the beer at that time; I was at the kettle.
28 Q. Where did you work next?
A. Next I went to Chicago and then I worked in Seipp's brewery; it was Seipp and Lehman's at that time.
29 Q. They were pitching by hand?
A. Yes, sir.
30 Q. Did you help pitch by hand?
A. Yes, sir.
31 Q. What was your regular employment there?
A. I was in the cellar the first two months.
32 Q. How long did you stay at Seipp's?
A. I was two years in Seipp's steady.
33 Q. Then where did you work?
466 A. In Schmitz, Katz and Levant's.
34 Q. How long and what years?
A. That was in the year 1856, I guess.
35 Q. How long did you stay at Schmitz, Katz and Levant's?
A. A year and a half.
36 Q. What were you employed on there?
A. I was foreman.
37 Q. Did you help to pitch?
A. Yes, sir; I sometimes helped, and sometimes I did not work at anything at all.
38. Where did you work next?
A. Next I worked at Racine, in Frei's brewery.
39 Q. How long did you work there?
A. Seven months.
40 Q. What were you doing?
A. I had a business, and me and my partner could not agree.
41 Q. Then where next?
A. I came to Chicago again.
42 Q. And whom did you work for?
A. For Bartholomae and Roessing.
43 Q. Through what years did you work for them?
A. It was in '66 or '67.
44 Q. What did you do?
A. I was in the kettle again, and afterwards I came to the cellar.
45 Q. Did you help pitch?
A. Yes, sir.
46 Q. Pitch by hand?
A. No, with the Gottfried machine.
47 Q. Where did you work next?
467 A. Next afterwards I worked by Schoenhoffer's about nine or ten months.

48 Q. Is that in Chicago?
A. Yes, sir.
49 Q. What did you do there?
A. I worked in the cellar.
50 Q. Did you help pitch?
A. Yes, sir.
51 Q. Did they pitch by hand?
A. They pitched by machine.
52 Q. Where did you work next?
A. Then I worked in the liquor and wine business a year for Gage and Brother.
53 Q. What was the next brewer that you worked for?
A. Holland and Kitche's, in Naperville, thirty miles from Chicago.
54 Q. How long did you work there?
A. One year.
55 Q. What year?
A. I haven't my book here; if I had I could tell you that, but I don't know the year.
56 Q. State as near as you can.
A. That was—let me see—no, I don't know the year.
57 Q. Was it before the Chicago fire?
A. It was after the Chicago fire; no, it was before the Chicago fire, because it was after the war in the old country between Germany and France.
58 Q. What work did you do there at Naperville?
A. I was foreman there.
59 Q. How was the pitching done there?
468 A. We done it by hand, because we had no machine.
60 Q. Where did you work next?
A. Next I came to Chicago again and worked for Seipp in the malt-house.
61 Q. Where next?
A. Next I went to the Union Brewing Company, in the malt-house, and we pitched there by machine.
62 Q. Did you help to pitch with the machine there?
A. Yes, sir.
63 Q. Where did you work next?
A. Next—let me see; I came to Gottfried's, and I am working for him now.
64 Q. What are you doing there?
A. I am working in the fermenting-room.
65 Q. Do you have anything to do with the pitching?
A. Yes, sir; everybody has to help there, pitching the big casks.
66 Q. Can you tell how many kegs they buy a year in any of the breweries that you have been in?
A. No, sir; I could not.
67 Q. Do you know how many kegs they keep on hand at any of the breweries?
A. Well, they keep over a thousand—three thousand—all the time; they must have so many; maybe they have more.
68 Q. You only guess?

A. Yes; that is all.

69 Q. You don't know the number?

469 A. No; I can't tell the number.

70 Q. You were up here and testified about this same matter some weeks ago, did you?

A. Yes; sir.

August Loeffel.

AUGUST LOEFFEL, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, residence, and occupation.

A. August Loeffel; my residence is Chicago, and my business is a cooper and brewer.

2 Q. How long have you been a cooper and brewer?

A. I am in that business for the last twenty-two years.

3 Q. How long in this country?

A. Since 1861.

4 Q. Where are you now employed?

A. At Gottfried's.

5 Q. How long have you been there?

A. I am there about eleven and a half years.

6 Q. Did you ever pitch kegs and casks?

A. Yes, sir.

7 Q. Did you ever pitch them in the old way by taking out their heads?

A. Yes, sir.

8 Q. Did you ever pitch with the Gottfried machine?

A. Yes, sir.

9 Q. State in which way of pitching the best results are obtained.

A. Pitching by machine.

470 10 Q. Explain how and why.

A. The casks and kegs will hold three times as long as it does in pitching by hand; and, another thing, pitching by hand the pitch never stays as it does pitching by machine. As long as you have out the head and drive on the hoops the pitch will get hard, and you never have the work done in the time that you do it by the machine. With the machine the work is done in a minute and a half, but in pitching by hand it takes so much time that the pitch gets so cool that it is like thick molasses.

11 Q. In which way can you pitch the fastest?

A. By machine.

12 Q. How much faster?

A. Six men—that is, coopers—can pitch a hundred and fifty a day in the old way, and that is a good day's work. If you take one man that knows how to pitch by the machine, and the others you can take off of the street, I can pitch a thousand with the same number of men.

13 Q. Did you ever see casks burned up in pitching by the old way?

A. Yes, sir.

14 Q. Where?
A. In Downer and Bemis'.
15 Q. Did you ever see anybody get hurt in pitching that way?
A. I know a fellow that got hurt, but he is dead now; I saw him and was working with him at that time.
471 16 Q. Did you ever know an accident to happen in pitching by the machine?
A. No, sir.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

17 Q. Where did you first work in this country?
A. For Sands and McGreby.
18 Q. In Chicago?
A. Yes, sir.
19 Q. What year?
A. In 1861.
20 Q. How long?
A. I worked there nine months.
21 Q. They pitched by hand?
A. Yes, sir.
22 Q. What were you employed for there?
A. As a cooper.
23 Q. Where were you next employed?
A. Next in Downer and Bemis' brewery.
24 Q. How long were you there?
A. I was there from '64, when I came back from the army, and stayed there until '71 or '72, in the middle of the summer; about six and a half years.
25 Q. How were you employed there?
A. As a cooper.
26 Q. How did they do the pitching there?
A. At the beginning we pitched by hand; we had no machine, but afterwards we got a machine.
472 27 Q. After they got the machine, did you help about the pitching?
A. Yes, sir; that was our business.
28 Q. Where did you work after that?
A. After I left Downer and Bemis' I went up to Seipp's.
29 Q. How were you employed there?
A. Cooper.
30 Q. How long?
A. Nine months.
31 Q. Did you help about the pitching here?
A. Yes, sir.
32 Q. What year was that?
A. 1872 up to '73.
33 Q. Where were you employed next?

A. At Gottfried's.
34 Q. And have you been there ever since?
A. Yes, sir.
35 Q. How are you employed there?
A. As a cooper.
36 Q. Have you helped about the pitching there all the time?
A. Yes, sir; that is my real business.
37 Q. Can you tell how many kegs they buy a year in any of the breweries that you have been in?
A. I never inquired myself how many they buy and how many they have on hand.
38 Q. You have nothing to do with the buying?
A. No, sir.
39 Q. And no means of knowing how many they keep on hand?
473 A. No, sir.
40 Q. Did you come up here and testify about the same matters some weeks ago?
A. Yes, sir.

Frank Walther.

FRANK WALTHER, a witness produced, sworn, and examined on the part of the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. State your name, residence, and occupation.
A. Frank Walther; I live on Elston avenue, Chicago, and am a brewer.
2 Q. State if you ever practiced the trade of a cooper?
A. I did.
3 Q. Are you a practical cooper as well as a brewer?
A. Yes, sir.
4 Q. How long have you been a cooper and brewer?
A. I am in the business since twenty-five years.
5 Q. In this country, or in the old country?
A. I have been in the old country and in this country.
6 Q. How long in this country?
A. About twenty years.
7 Q. Where are you now employed?
A. In Brand and Company's.
8 Q. What is your position with Brand and Company?
A. I am foreman there.
9 Q. Have you ever had any experience in pitching kegs and casks?
A. Yes, sir.
474 10 Q. How much?
A. Oh, thousands of them.
11 Q. Did you ever pitch them in the old way?
A. Yes, sir.
12 Q. Did you ever pitch them with the Gottfried machine?
A. Yes, sir.

13 Q. State in which way of pitching you get the best results.
A. On the machine.
14 Q. In what respect?
A. You save a good deal in the hogsheads and kegs; you don't need to take the heads out and a good deal of work you save.
15 Q. In which way are the kegs and casks used up the fastest?
A. When you pitch by hand.
16. Q. How much faster are they used up?
A. A good deal.
17 Q. I mean how much faster are the kegs destroyed or used up in pitching by the old way than by the machine?
A. Well, they hold about three times longer than if you pitch them by hand.
18 Q. Do you mean that there is about three times as much wear and tear upon the kegs or casks in pitching the old way as in pitching by the machine?
(Objected to as leading.)
A. Yes, sir.
19 Q. How much faster can you pitch by the machine?
475 A. You can pitch three times more than by hand.
20 Q. State in which way of pitching the most pitch is used.
A. When you pitch by hand.
21 Q. Did you ever see or use what is known as the pitching pan that is introduced into the cask through the man-hole?
A. Yes, sir; I had them once.
22 Q. Where?
A. At La Salle, Illinois.
23 Q. Did you ever help to pitch casks with that pan?
A. Oh, yes.
24 Q. State, in your opinion, how much the Gottfried and Holbeck invention alone is worth to any brewer using it in the ordinary and usual way per keg over the old way of pitching.
(Objected to as speculative and as otherwise incompetent and irrelevant.)
A. Well, I will make my figure at about thirty or forty cents a year of two pitchings.
25 Q. How much is it worth per cask?
(Objected to as speculative and as otherwise incompetent and irrelevant.)
A. I think it is worth about five or six dollars a year of one pitching. I mean that you save by it that much in the pitching.
26 Q. Is it worth that much over the pitching pan?
A. With the pitching pan—you can't pitch kegs with it and you can't pitch casks so good. The pitch drops in the fire and does not get loose enough. That is why we gave it up and got
476 Gottfried's machine.
27 Q. In pitching by the old way did you ever see any casks burned or destroyed?

A. Of course, you burn them every time you turn them around where the fire comes.

28 Q. I mean entirely burned up and ruined?

A. Yes, sir; after we had them five or six years.

29 Q. Did you ever see anybody get hurt in pitching by the old way?

A. I only know of one person in the old country where the heat came out, but it was the cooper's fault; when you can't make the cask hot enough you raise so much steam that the head flies out and hits the men.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds, under protest, to cross-examine.)

Cross-examination by Mr. PARKINSON:

30 Q. Where did you first work in this country?

A. In New York.

31 Q. At what brewery and during what time?

A. At five or six—in Rupert's and Wingen's, and I worked in Schneider's brewery, at Williamsburg, and in Sneidebaker's brewery, and on Staten Island, and in some more places—three or four more.

32 Q. Through what years was that?

A. About twenty years ago—or fifteen.

33 Q. How was the pitching done in those breweries when you were there?

477 A. We pitched by hand; the puncheons were smaller and we could handle them easier; if we had to pitch the sixty-barrel puncheons it would have been different. At that time they only had the smaller casks, and it was not so much trouble, but they had to take the hoops off and take the heads out the day before and set them away to dry, and then pitch them and put the heads in and draw the hoops down, but when you have the machine you get the fire in and dry them up and have no trouble with hoops at all, and put them back in the cellar again and use them.

34 Q. Where did you work next after you left New York?

A. In Chicago; at Sands' brewery.

35 Q. What years?

A. In 1865 or '67.

36 Q. Where did you work next?

A. I was foreman in St. Louis, where I used this pitching pan, and then I was out in Keeley's brewery three years.

37 Q. How long were you at St. Louis; what years?

A. Before the fire; nearly twelve years ago.

38 Q. How long were you there?

A. Three years.

39 Q. Up to about '71?

A. Yes, sir; right after the fire I came here to Chicago to Keeley's brewery.

40 Q. You saw the pitching done at St. Louis?

A. Yes, sir; we had that pan and when the machine came up we got it.

478 41 Q. During the time you were at St. Louis how were the kegs pitched?

A. By hand.

42 Q. And during what time were the casks pitched by the pan?

A. For two years.

43 Q. After you got the Gottfried machine you pitched the casks on that?

A. Yes, sir; the kegs and casks.

44 Q. You did the pitching then, did you?

A. I was the commander.

45 Q. Where did you work next?

A. On the south side, in Keeley's brewery; it was owned by another man then.

46 Q. How long did you work there?

A. Three years.

47 Q. What was your position?

A. Foreman.

48 Q. How was the pitching done there?

A. By the machine.

49 Q. All the time you were there?

A. Yes, sir.

50 Q. Did you do the pitching there?

A. Yes, sir; I always was along.

51 Q. Where did you work next?

A. Since that time I have been at Brand's.

52 Q. What is your position there?

A. Foreman.

53 Q. Do you help about the pitching?

A. Yes, sir; we have another machine there—the superheated steam machine.

54 Q. Do you pitch kegs with it?

479 A. New kegs we do, but not the old ones; the steam is not dry enough.

55 Q. It is dry enough if it gets hot enough?

A. Yes, sir.

56 Q. Do you know how — a temperature you get the steam up to?

A. I never looked how high it was, but when it is blue it is hot enough.

57 Q. How long have you used that superheated steam?

A. This is the second year, but it is all to pieces now.

MASTER:

58 Q. How are you pitching your kegs?

A. We pitch kegs with that, too, but it ain't very good for kegs; it is only good for new kegs.

59 Q. Do you use it for all kegs?

A. Yes, sir; but you have much trouble about pitching them.

Mr. PARKINSON:

60 Q. What kegs you pitch you pitch on that machine, do you?
A. Yes, sir; but that has nothing to do with Gottfried's machine.
61 Q. Before you used this superheated steam at Brand's brewery you used the Gottfried machine?
A. Yes, sir; we had that a long time; at first we only pitched the casks with the superheated machine, but now we pitch everything with it.
62. Do you know how many kegs they buy a year in any of the breweries you have been in?
A. Last year we bought ten thousand dollars' worth.
480 63 Q. In what brewery was that?
A. In Brand's.
64 Q. How large a brewery is that?
A. Seventy-five to eighty thousand barrels a year.
65 Q. Do you know how many kegs they keep on hand?
A. No; I can't tell that.
66 Q. Can you tell how many kegs they bought in a year in any of the other breweries you were in?
A. No; we did not sell so much beer.
67 Q. Do you know how many kegs they bought in these breweries of your own knowledge, or how many they keep on hand?
A. No, sir; I can't tell that.

Mathew Gottfried.

MATHEW GOTTFRIED, the complainant, testified as follows in answer to interrogatories by Mr. BANNING:

1 Q. You have testified before in these causes?
A. Yes; I have.
2 Q. Look at this circular which has been marked "Circular A" and state what you know about it.

(Objected to as incompetent and irrelevant.)

A. This circular was handed to me about five or six years ago from Bartholomae and Leicht's, and amongst other papers I handed it over to my attorneys, Messrs. Banning and Banning.
3 Q. Look at this circular marked "Circular B" and state what you know about it.

481 (Objected to as incompetent and irrelevant.)

A. This is a circular from the United States Brewers' Association, and it was one sent by mail to me, too—a copy of these circulars. They had a convention of this Brewers' Association, and they passed a resolution and appointed a committee to find a way and means how to fight those patent sharks, as they called them at that time. They did not call them so in this circular. They appointed a committee and the committee reported to the association, and then they printed a circular and sent around to all the brewers of the United States, and I received one of them.

(Objected to as irrelevant and incompetent.)

4 Q. And this one that you received in that way?
A. Yes, sir.
5 Q. When did you first commence suits under your patent?

(Objected to as irrelevant and incompetent.)

A. It was the fall of 1876.
6 Q. Where?

(Objected to as irrelevant and incompetent.)

A. In the city of New York and in the State of New Jersey.
7 Q. Why did you not commence suits sooner?

(Objected to as irrelevant and incompetent.)

A. The title of the patent was not in such a shape that I could commence suits, because I assigned my part over to Holbeck when he started the Baltimore Pitching Machine Company, and that was in 1870, and I did not get right possession of it until the
482 summer of 1876, and after that we engaged John H. B. Latrobe, of Baltimore, a patent attorney, and he commenced suits—I don't know how many, I guess about twenty or twenty-five—down East at several places.
8 Q. When did you commence suits in Chicago?
A. A year after that, in 1877. They went on so slow down East, and I lost patience and came to Messrs. Banning and Banning, and we commenced suits here in Chicago in 1877.

(Objected to as incompetent and irrelevant.)

9 Q. When you say you did not get possession of the patent whom do you mean—yourself or yourself and Holbeck?

(Objected to as irrelevant and incompetent.)

A. Myself—well, Holbeck always had a part of it; he always had a share, but I don't know how much of the old patent he had when he was in the Baltimore Pitching Machine Company; but I didn't have any part in it at that time.
10 Q. Who had the controlling interest while the title was in the Baltimore Pitching Machine Company—Mr. Holbeck or the parties East?

(Objected to as incompetent, the title being of record.)

A. The parties East.
11 Q. Did they have that controlling interest until the patent was reassigned by the company or not?

(Objected to as incompetent and irrelevant and also as leading.)

A. They had the control of it—yes, sir—until it was reassigned to me.
483 12 Q. Did the parties controlling the Baltimore Pitching Machine Company carry out the agreement and understanding on which the company was organized and under which the patent was assigned to it or not?

(Objected to as leading and as otherwise incompetent and irrelevant.)

A. No; they did not.

13 Q. State whether they required you to pay money before you could get the patent back into your possession or not.

(Objected to as incompetent and irrelevant.)

A. Not that I recollect.

14 Q. I mean you and Holbeck.

(Objected to as irrelevant and incompetent.)

A. As I remember, they asked Holbeck for money.

15 Q. Did you not pay a large amount of money to Mr. Stromberg to get the title back?

(Objected to as irrelevant and incompetent.)

A. Yes, we did; Stromberg owned a part—as I understand, one-third of Holbeck's half interest—of the patent, and to make the title good we paid him, I suppose, five thousand dollars.

16 Q. Was there any trouble with Stromberg to get that title back?

(Objected to as irrelevant and incompetent.)

A. Yes; there was a good deal of trouble and conversation about it.

17 Q. Was there a suit commenced about it or not? Do you remember?

(Objected to as irrelevant and incompetent.)

A. I do not remember at present, just now.

484 (Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds under protest to cross-examine.)

Cross-examination by Mr. PARKINSON:

18 Q. How do you know that the United States Brewers' Association appointed a committee, and that that committee took the action that you have stated in your direct examination?

A. I have seen it in the records.

19 Q. That is from what you have heard?

A. Yes, sir.

20 Q. You were not present when the steps were taken?

A. No; but I have read the records and the proceedings.

21 Q. What did you read—the record in some newspaper?

A. No; I had the record direct from the secretary of the United States Brewers' Association.

22 Q. That is your only means of knowledge as to what took place in that convention, is it?

A. Yes; that and then the other circular marked "B."

23 Q. How do you know that these circulars were sent all over the country, as you have stated?

A. Some other brewers told me that they had received some, and I expect all the brewers that belonged to that association had a copy of it.

24 Q. You did not see any sent out, did you?

485 A. I did not; but I was told by a good many brewers that they received some circulars that way.

Redirect-examination by Mr. BANNING:

25 Q. Have you got the records of the proceedings of the United States Brewers' Association that you mentioned a moment ago?

A. I suppose I have it, but I am not sure.

26 Q. Are you a member of the United States Brewers' Association?

A. Yes; I am.

27 Q. Has it been the practice of the secretary to send the printed reports of the proceedings of that association to its various members from year to year?

(Objected to as irrelevant and incompetent.)

A. Yes, sir.

28 Q. And also various circulars that it issues?

(Objected to as leading and as also incompetent and irrelevant.)

A. Yes, sir.

(Counsel for defendants objects to the foregoing deposition as irrelevant and incompetent, and, without waiving the exception, proceeds under protest to cross-examine.)

Recross-examination by Mr. PARKINSON:

29 Q. How do you know it has been customary for the secretary of the United States Brewers' Association to send its records to all its members?

A. Well, I know that there is some matters myself that come up and the brewers all get notice of it. Of course, they can't

486 write it, as there are so many brewers, so they print it and send it around.

30 Q. You only know it from having received circulars and reports?

A. Yes; and have heard other brewers speak of it.

31 Q. How long have you been a member of that association?

A. About five or six years.

32 Q. Where is the headquarters of that association?

A. In New York, in the city of New York. I used to be a member of the Brewers' Association of Chicago, and the Brewers' Association of Chicago belonged to the United States Brewers' Association, and every brewer who was a member of the Chicago association could get a membership of the United States Association, as they had notified the brewers they could do, and so I did it five or six years ago.

MASTER: Complainant's counsel give notice of the closing of their case in chief.

487 CHICAGO, *July 11th*, 1883.

The master witnessed a practical illustration of pitching kegs by machine at complainant's brewery, in Chicago.

CINCINNATI, *July 25th*, 1883.

This day the master was present at a practical exhibition of pitching kegs by hand, or, as it is called, in "the old way," at the brewery of the Windisch-Muhlhauser Brewing Co., in Cincinnati.

Thursday morning, July 26th, 1883, set for the taking of testimony by the defendants at the office of the master.

CINCINNATI, *July 26th*, 1883.

Mr. Banning, having been delayed by a railroad accident, did not reach the city in time to proceed to-day.

JULY 27TH, 1883.

Present: Geo. Parkinson, Esq., for defendants, and Thos. A. Banning, Esq., for complainant.

JACOB FRECH, Jr., being called by defendants and duly sworn, deposes and says:

By Mr. PARKINSON:

1 Question. State your name, age, residence, and occupation.

Ans. Jacob Frech, Jr.; age, twenty-eight; residence, 202 Pleasant street, Cincinnati, and occupation, cooper at John Hauck Brewing Company, Cincinnati, Ohio.

2 Q. How long have you been so employed?

A. Very near ten years now.

3 Q. What have been your duties?

487½ A. To repair old broken kegs and half barrels and pitch in cases of necessity when men are busy in the brewery.

4 Q. State whether or not you are familiar with the processes of pitching by hand and by machine.

A. I am.

5 Q. Have you pitched in both ways?

A. I have.

6 Q. Please state by which method the best results are obtained.

Complainant objects to the character of the testimony sought to be elicited by this question and all similar questions that may be asked as not being offered at the right stage of the proceedings, for the reason that if the master's ruling in this case on defendant's motion be correct the evidence taken at Chicago by complainant is but a continuation of the same kind of evidence as that given by Mr. Gottfried and not the introduction of anything new, and the defendants having already taken evidence in reply to the points made by Mr. Gottfried as fully and amply as they desired, they cannot now enter into evidence of the same kind and nature, but must confine themselves to replying to new matter, if any, offered by complainant since the close of defendant's evidence to Mr. Gottfried's testimony, and enter upon a simple cumulation of the evidence

heretofore taken *in extenso* by them, and he notifies defendant's counsel that at the hearing of these causes he shall ask to have all such evidence stricken from the record.

MASTER: The testimony may go in subject to the objection.

488 A. By the hand work the best results are given.

7 Q. In what respects are the results better?

A. In the first place, when the keg is hooked onto the pipe where the fire is blown out it burns the bung-hole, because the man has not time enough to set it so that the pipe will fit directly in the center of the bung-hole, and the consequence is that the keg will rest on the red-hot pipe and burn a hole in the stave; then the heat is not sufficient to dissolve all the pitch that is in the keg; the fire is blown out and strikes certain points on both sides and both heads, but the pitch will stay in the corners and around the lower end of the keg and will not dissolve, and the consequence is that there will be lumps of pitch on the bottom of it, and where the fire strikes the stave is blistered, and these blisters will split and will admit beer, and the beer will become decayed and cause a bad odor in the keg and spoil the beer that is in it; and the head is split in a great many cases in points that no pitch will go into, but the beer will get behind it just the same as in the staves; then, in order to prevent the burning out of the bung-holes, the firm had to go to work and put in iron bushing, or box, as they call it, to save it; the hole is oval and it will take an extraordinary bung to drive in there, and by driving it in it will split the stave lengthwise; out of fifty kegs we have thirty staves to repair; that is the reason I think the hand work is better in two or three respects than the machine work.

8 Q. Have you brought with you any staves and heads which will show what you mean? If so, please produce them.

A. I have, and produce them.

489 Defendants introduce one stave and two heads marked "Defendants' Exhibit Bung-hole Stave and Heads Nos. 1 and 2."

9 Q. By which method is the pitch most evenly distributed?

A. By the hand work.

10 Q. By which method is the keg most thoroughly purified?

A. By the hand work.

11 Q. How many men are ordinarily required for pitching by hand and what does each man do?

A. There are seven men—not more than seven; one man does the burning; four do the closing, putting the head back into the keg again, and the other two do the rolling.

12 Q. How is the rolling done at Mr. Hauck's brewery?

A. They have a pair of rollers there run by a crank that is turned, and the keg is put on there and rolls long enough to cool the pitch, and then it is thrown off; it only requires one man now for this rolling machine; before that they had a pair of skids that ran down one end and came up the other, one man at each end.

13 Q. How many men would be required to do the same amount of work with the machine for rolling that seven men formerly did?

A. It only requires six now; you save one man by the rolling machine.

14 Q. How many kegs per hour can six men pitch by hand when the rolling machine is used, or seven men when the rolling machine is not used?

A. Between eighty and a hundred; that is an average.

15 Q. When did you last pitch kegs by hand?

489½ A. That has been about five years ago.

16 Q. Do you mean when the brewery for which you work last pitched by hand, or when you yourself last pitched by hand?

A. When the brewery pitched by hand last; when I pitched last was only a few days ago.

17 Q. State where it was that you last pitched by hand, how many men were employed, how many kegs were pitched, and how long it took to pitch them.

A. The last time was at the Windisch-Muhlhauser Brewing Company; we were seven men and we pitched fifty-one kegs in twenty-five minutes.

18 Q. State whether you yourself or the others who assisted you at this time, so far as you know, had been accustomed to pitch by hand for the past few years.

A. They are accustomed as well as I am to the hand work; any brewer is accustomed to hand work.

19 Q. How long had it been before you pitched these kegs at the Windisch-Muhlhauser Brewery since you yourself had pitched any kegs by hand?

A. As I stated before, five years.

20 Q. Do you know whether or not any of the other men had pitched by hand within five years?

A. Some of them longer than that; some of them seven or eight years.

21 Q. What preparation of the kegs is necessary before pitching by machine?

A. When the keg is brought in the first thing they do is
490 to examine it with a gas jet; that takes three men; one inserts the jet to inspect the keg—see how it looks inside, whether it is necessary to pitch it or not; then the keg is washed and put on skids, with the bung-hole down, in order to dry the water out of it; and the hoops will have to be driven, every one of them, before it is pitched.

22 Q. Is this examination necessary for any other reason than to see whether the kegs require pitching?

A. No; it is not.

23 Q. About how many kegs could three men examine in an hour's time?

A. About two hundred.

24 Q. What preparation is necessary before pitching by hand?

A. The preparation is that the keg is washed and the head is taken out.

25 Q. How many heads can two men take out in an hour?
A. About a hundred and fifty.
26 Q. State whether or not pitching by hand can be carried on under cover.
A. It can.
27 Q. Is or is it not frequently done under cover?
A. It is frequently done—always done, or else we could not work on a rainy day.
28 Q. How much pitch is required for pitching a cask, say a thirty-barrel cask, by hand?
A. That I could not answer properly, because I do not know the quantity exactly. If you had a ladle here I could show you—we have it in a ladle—just by guess-work.

By the MASTER:

29 Q. Cannot you give it approximately?
491 A. Well, say about a pint, when it is in liquid form, for pitching one keg.

By Mr. PARKINSON:

30 Q. I was asking for a thirty-barrel cask?
A. A thirty-barrel cask would take about a gallon of pitch in the liquid form, when it is hot.
31 Q. About how long does a keg ordinarily last?
A. Since we are pitching by machine they do not last more than four years.
32 Q. By which method are the most repairs required?
A. By the machine method.
33 Q. State what kind of men, whether skilled mechanics or ordinary workmen, are required for pitching by hand, and also state whether there is any difference between the men required and employed when pitching by hand or by machine.
A. As to the first part of the question, any ordinary brewer can do the work; there is no difference.

Cross-examination by Mr. BANNING:

1 X Q. As I understand, you are employed at Hauck's brewery?
A. I am.
2 X Q. How long is it since they began to pitch kegs there by hand?
A. I have not the date and do not know the number of years; it is not longer than four or five years.
3 X Q. When did Hauck begin to use bung bushes?
492 A. This spring.
4 X Q. Had he never used them before then?
A. Never; not one of them.
5 X Q. Why are bung bushes used?
A. To protect the hole from being burned.
6 X Q. Is that the only reason they are used?

A. That is the only reason they are used in John Hauck's brewery; they were gotten only for that reason.

7 X Q. How much do bung bushes cost?

A. That I do not know; it is not my business to know.

8 X Q. I thought you said upon your direct examination that they cost about fifteen cents to put them in each keg.

A. It takes a man fully a day to put in two hundred.

9 X Q. At what wages?

A. The man that would put them in gets seventy dollars a month.

10 X Q. Can you state approximately how much a keg it costs to put in iron bung bushes?

A. No; I could not state that exactly. It takes a man, as I said, fully a day to put in two hundred, and then I do not know the price of the bushing; they may be cheaper in one place than they are in another.

11 X Q. What is it in Cincinnati?

A, I do not know; I have heard, but what I have heard is all hearsay. I do not know whether it is true or not, but they tell me it costs eight cents apiece.

12 X Q. For the bare bushes?

493 A. Yes, sir; for the bare bushes. I never paid any attention to what these things cost; it is not my business to look after that.

13 X Q. You say the heat from the machine is not sufficient to melt all the pitch in the keg?

A. No; it is not strong enough. It is strong enough on one spot where it strikes, but that is all. I can show you on the keg where it does not dissolve the pitch around in the corners of it.

14 X Q. How did this stave and these two heads that you have brought down here get split in the way shown?

A. This stave was split by driving the bung in to fill up the oval part of the hole. The bung is perfectly round and the hole is oval.

15 X Q. That never had any bung bush in it, did it?

A. Never.

16 X Q. Then it was split by driving in the bung?

A. Yes, sir; by driving in the bung to fill up the oval part of the hole. The bungs are all perfectly round, and the man that fills the keg will see in a moment when it leaks, and he will keep on driving it in until it will not leak or split the stave.

17 X Q. Are not iron bung bushes put into the bung-holes of kegs to prevent their being split by the driving in of the bung?

A. No, sir; they are put in there to protect the hole from being burned by the machine.

18 X Q. And not for the purpose of preventing their splitting?

A. No, sir; because we never had them until this spring; they were gotten then.

494 19 X Q. And yet Hauck had been using the machine for several years?

A. Yes, sir; but they finally found out that there was so much repairing that they had to get this bushing. As I said before, if we repair fifty kegs we have a little over half with nothing but bung-

hole staves to be put in, and they are pitched five or six times in a summer.

20 X Q. Did you see this stave split?

A. No; I can see the split in it now that is the result of driving the bung in.

By the MASTER:

21 X Q. How many times do you say you pitch?

A. Four or five times a summer.

22 X Q. All your kegs?

A. Yes, sir; the majority of them; just as soon as they come back from the return—from the railroad or steamboat.

By Mr. BANNING:

23 X Q. Has that been so ever since you commenced to use the machine?

A. The pitching so often has.

24 X Q. You have charge of that work yourself, do you?

A. No.

25 X Q. You assist in doing it, do you?

A. Yes, sir; I do.

26 X Q. I did not mean that you superintended the work, but I meant you assisted in doing it?

A. Yes, sir; I assist.

27 X Q. You, then, did not see this stave split, but state that it was split in the way that you have — simply because you have been so told?

495 A. I was not told; I know that from my experience; I am not there when they split the staves; the staves are split in the cellar where they fill them; but they come up, and after studying the thing over I found that was the cause of splitting the stave; nobody told me so; I know it by experience.

28 X Q. Will not a stave always split if a man drives the bung in too strongly or carelessly?

A. They do not drive it in carelessly unless the hole has got too big and they have to keep on.

29 X Q. If he would hit it a heavier blow than necessary, would it not drive it in and split the stave?

A. Yes, sir; if he would do it carelessly—if it was his intention to break it; but he does not do that; I know it.

30 X Q. How do you know it?

A. Because they are warned not to do it by the foreman.

31 X Q. How was the keg pitched from which you have brought this stave here?

A. That is machine work.

32 X Q. How do you know it?

A. Because I know it.

33 X Q. How do you know it?

A. Because the bung-hole is burned and we have not pitched any here lately by hand; we have not pitched any of them here lately by hand.

34 X Q. Are all the kegs that are pitched by machine in John Hauck's brewery as thickly coated with pitch as these heads and this stave appear to be?

A. Yes, sir; and even a great deal more; some of them
496 have it about half an inch thick on one spot; here it is; you will never find that on handwork. Do you see that pitch there (witness indicating upon "Defendants' Exhibit Heads Nos. 1 and 2")?

35 X Q. Are not this stave and these heads from an old keg?

A. It is from kegs that we picked out from the cooper shop.

36 X Q. Do they not show that they are from an old keg that has been in use a number of years?

A. That keg has not been in use more than a year and a half.

37 X Q. How do you know?

A. Because I know it.

38 X Q. How do you know it?

A. I know from the brand of it, "John Hauck, Cincinnati;" the new ones are branded "John Hauck Brewing Company."

39 X Q. Has he not always branded them "John Hauck," until this year, for the last number of years?

A. No; they were branded "John Hauck" only for two years.

40 X Q. Not before that?

A. No, sir; they were branded "Hauck & Windisch;" the firm was at that time Hauck & Windisch.

41 X Q. Will you swear that it has been less than two years since he commenced to brand his kegs "John Hauck?"

A. I will swear to three years.

42 X Q. That it is less than three years?

A. No; it is not less than three years; it is about three years; I will not swear to the date.

43 X Q. Will you say that it is less than four years since he commenced to put this brand on?

497 A. Yes, sir; I will swear to that; it is less than four years.

44 X Q. Positively?

A. Yes, sir.

45 X Q. This stave has not been pitched since the splitting was done, has it?

A. No.

46 X Q. It was split, then, since the last pitching.

A. Yes, sir.

47 X Q. Why did you say that a keg is more thoroughly purified by hand pitching?

A. Because the head is taken out and all the gas that is in it will go out when the head is taken out.

48 X Q. Will not the gas go out when the bung is taken out?

A. No, sir.

49 X Q. Why not?

A. Because it has not room enough to go out.

50 X Q. What do you mean by gas?

A. The gas from the furnace—the coke gas that is put in; I have

seen gas that way perfectly blue inside all around from the coke gas from the furnace blown in there.

51 X Q. Does this stave have any of the coke gas, as you call it, sticking to the pitch?

A. No; that has not any; when they first start the fire there is more gas in it than towards the end of it.

52 X Q. In hand pitching is not the head put in right away before the keg is rolled?

497½ A. Certainly; it must be.

53 X Q. And then the bung is driven in?

A. No; the bung is put in before.

54 X Q. Well, it is closed up tight before you roll it, is it?

A. Yes, sir; it has got to be or else you cannot rinse it; it will burn your fingers.

55 X Q. When you were pitching by hand did you not use something to roll the kegs?

A. I had a pair of skids; rolled them up and down one end, and the man at that end put them on the other skid and rolled them down, and kept on that way. They are doing it at some of the breweries yet.

By the MASTER:

56 X Q. Such an arrangement as at Windisch-Muhlhauser's?

A. Yes, sir.

By Mr. BANNING:

57 X Q. Cannot they use that same arrangement when pitching by machine?

A. Yes, sir.

58 X Q. The machine does not necessitate the use of your rolling machine, does it?

A. No, sir.

59 X Q. They use the machine pitching at the Hauck brewery?

A. Yes, sir; that has nothing to do with the pitching.

60 X Q. Do you mean to say that six men can, straight along, hour after hour, for a whole day, pitch on an average by hand from eighty to a hundred kegs?

498 A. There are never half enough to pitch a whole day.

61 X Q. You never tried it, then?

A. No; but we tried it two or three hours—and four hours, too, but never a whole day.

62 X Q. Did you ever count them?

A. Yes, sir; every time we pitch we count our kegs.

63 X Q. Did you ever keep any record of the amount?

A. We did one year.

64 X Q. When was that?

A. That was about 1878; about five years ago.

65 X Q. Before the machine was in use?

A. Yes, sir; before the machine was in use.

66 X Q. Do you know now how many you pitched that year?

A. No, sir; I could not tell you.

By the MASTER:

67 X Q. Have they got that record?
A. No; we kept a record on the wall; that is all; put it down in chalk.

By Mr. BANNING:

68 X Q. You stated that all the men that assisted you in the hand pitching day before yesterday were men that were used to the business; had pitched by hand before?
A. Yes, sir; they had.
69 X Q. Were they all experienced coopers?
A. No, sir.
70 X Q. How many of them were experienced coopers?
A. Three, with myself.
71 X Q. But all of them were accustomed to pitching by hand?
A. Yes, sir—that is, there were three that put the heads in
499 that were experienced coopers. The others do not require to be coopers.
72 X Q. Of those fifty-one kegs which you pitched day before yesterday did you take out the heads at the time you commenced the pitching by hand, or did you take them out the day before?
A. We took them out the same day.
73 X Q. Did you include the taking out of the heads in the twenty-five minutes?
A. No, sir; I did not include that.
74 X Q. Did you include the rolling in the twenty-five minutes?
A. Yes, sir; that is included.
75 X Q. Have you got a specimen of that hand pitching which you did, or can you bring up a keg or stave from one of those kegs?
A. I have not got it here, but I can get one; get the whole keg.
76 X Q. Before pitching by hand do you not examine the keg with a gas jet to see whether it needs pitching?
A. No, sir.
77 X Q. And yet you say you do that when you pitch by machine?
A. Yes, sir.
78 X Q. Why do not you examine to see whether it needs pitching when you are going to pitch by hand as well as when by machine?
A. Because at that time we only pitched twice a year, in the spring and fall, and every time the keg was pitched it was marked that this keg was pitched. Now, the keg has no mark, because they are pitched so often. It would not be necessary to put the
500 mark on them. You would have the whole end full of marks.
79 X Q. Because you pitch now more than twice a year?
A. Yes, sir.
80 X Q. Has that been so since the use of the machine?
A. Yes, sir.

By the MASTER:

81 X Q. Do you mean to say that as an average you pitch all of your kegs more than twice a year?
A. Now, yes, sir; since we use the machine.

By Mr. BANNING:

82 X Q. How many casks can you pitch in a day by hand?
A. Large casks?
83 X Q. Yes, sir.
A. From twenty-four to thirty.
84 X Q. With how many men?
A. Seven or eight men.
85 X Q. Did you ever count them?
A. Yes, sir; count them every time the same as I did with the kegs.
86 X Q. How often do you pitch the casks with the machine?
A. Once a year.
87 X Q. How many kegs can you pitch with the machine in an hour with six or seven men?
A. Six men—well, if they would work real steady—a hundred an hour.
88 X Q. With one nozzle?
A. Two.
89 X Q. Did you state that pitching by hand was always carried on under cover?
501 A. Always have.
90 X Q. Where have you seen it done?
A. That is always done in the John Hauck Brewing Company.
91 X Q. Have you ever seen it done elsewhere?
A. I have.
92 X Q. Under cover?
A. It was done day before yesterday under cover.

By the MASTER:

93 X Q. Altogether or partially?
A. Well, the main work was under cover; the rollers were outside.

By Mr. BANNING:

94 X Q. How much pitch does it take in pitching a keg by machine?
A. It takes just as much as by hand?
95 X Q. Is the same true of casks?
A. It requires more pitch by machine than by hand, because you can never dissolve it as well as you can by hand-work.
96 X Q. You have stated that machine-pitched kegs do not last more than four years. How do you know that?
A. Well, this proves it here; this stave and the heads.
97 X Q. If this proves it with reference to this one keg what proves it with reference to all of them?

A. The same.

98 X Q. Do they all become split?

A. Well, as I said, out of every fifty we have more than half of them that are split.

99 X Q. And how long do casks last when pitched by hand?

A. At that time I remember we had kegs there that lasted six and seven years.

502 100 X Q. How do you know they lasted six and seven years?

A. Because I know we kept track of them; I am positive that the kegs lasted at that time longer than they do now.

101 X Q. You have stated that you have been pitching for about ten years, have you not?

A. Yes, sir.

102 X Q. Then you were about eighteen years old when you commenced?

A. Yes, sir.

103 X Q. And you quit pitching by hand when you were about twenty-three or twenty-four years old?

A. Yes, sir.

104 X Q. Now, do you mean to say that they have lasted six or seven years to your certain knowledge when pitched by hand?

A. The kegs were there before I started to work there, and had been a number of years.

105 X Q. How do you know?

A. Well, because I know it.

106 X Q. Did they tell you so?

A. Yes, sir; they told me so. The kegs were there, and I could tell it by the way they looked; the outward appearance showed that they had been there a number of years. A new keg will always have the glow of the iron and have clean wood until it gets old; then it has a rust there.

107 X Q. In pitching by hand how many hoops do you have to knock off of the keg like this appears to have had?

A. Take off three hoops on one side.

503 108 X Q. You take off three hoops and take out one head?

A. Take out one head; that is all that is necessary.

109 X Q. And that, you think, is a benefit to the keg?

A. Well, yes, sir; as far as the head is concerned.

110 X Q. Do you not think, then, that it would benefit the keg still more if you would knock off the other three hoops and take out the other head?

A. It is not necessary; it is not taken out for pitching.

111 X Q. But if it benefits the keg to take out one head why does it not benefit it more to take out both?

A. It benefits it, so far as I understand, according to my idea, in this way: When the keg is opened it expands and gives the head room. Now, it is closed all the time and the strain of the hoop is right against the head here and it cracks it off here right at the grain, and this part that cracks off fits so close in there that nobody can see it by looking inside through the bung-hole or any other way

than by taking it out; then you would see. No pitch will go in there. The pitch is not thin enough to run in, but the beer will (indicating "Defendants' Exhibit Head No. 1").

112 X Q. Do you not make your pitch as thin as water?

A. No; you can never get it that thin. If you do, it will catch fire.

113 X Q. This head appears to be somewhat dished, does it not?

A. Yes, sir; it is dished a little bit.

114 X Q. Does not that show that it was not well seasoned when the head was put into the keg and that it has seasoned since?

A. It has nothing at all to do with the seasoning. It was
504 the strain of the hoop that cracked it off. Here is one (referring to "Defendants' Exhibit Head No. 2") that nobody would have the slightest idea was cracked, and it has been kept in there.

115 X Q. Do you mean to say that a keg or cask is less broken and requires less repairing when you knock off three of the hoops and knock out the head than when you do not disturb it?

A. Well it would hurt the cask more, but not the keg. If you have men there that know how to take the heads out it will not hurt it in the least, but it will the cask, because it is so much larger and heavier and you cannot handle it.

116 X Q. As I understand, you have given it as your deliberate judgment that hand pitching is better than and more economical than machine pitching. Is that so?

A. For kegs, yes, sir.

117 X Q. Then why is it that a machine is used at all?

A. I decline to answer that. That is a matter of the boss'.

118 X Q. How many kegs could you pitch by hand in an hour if you went into John Hauck's brewery and took the ordinary men that do the pitching by machine?

A. The same number as we pitched day before yesterday at Windisch & Muhlhauser's. We can do it every time.

119 X Q. Although the men may never have had any experience in hand pitching?

A. Well, no; I would not say that, because there are some brewers that never helped to pitch by hand, and the consequence is they do not know how to do it, but we will get men that have done this work in former years and we will pitch just as many as we did at Windisch, Mulhauser & Company's.

505 120 X Q. But you would not undertake to do this with hands that had not had this former experience?

A. Well, I would undertake it, but we could not pitch so many.

121 X Q. That is what I meam.

A. Yes, sir; we could not pitch so many.

Redirect examination by Mr. PARKINSON:

1 R. D. Q. Could you pitch so many by machine with men who had not had experience in pitching?

A. Well, no; not quite as many; it would take quite a time to break them into that, too; they have got to be accustomed to the

pitch work, because it is dangerous. If they do not handle the kegs easy enough and in the right way the bung might come out, or the pin in the other hole might come out and be very apt to burn him, scald him. I have seen it done dozens of times when men were hurt and had their fingers burned by this machine work, that were careless and did not know how to handle them, and only a few months ago they turned on the blower for the furnace and there was some kind of gas or something of the kind up there—I do not know what it was—and water mixed with it, and it blew all the fire out of the furnace; it was a kind of explosion; blew it right out and put the fire out, too; they had to start a new fire.

2 R. D. Q. About how long do casks last, upon the average?

A. About ten or twelve years.

By the MASTER:

3 R. D. Q. Is there any difference whether they are pitched by hand or by machine?

506 A. No difference; we have casks there that were pitched by hand that are about fifteen years old. Now they have casks that are not pitched at all; they are varnished. Pitching the casks and putting the furnace into the casks will burn the man-hole, running the furnace in, because the furnace will warp from the heat and it gets too wide and won't go in, so they have to force it in through the man-hole and it leaks afterwards.

By Mr. PARKINSON:

4 R. D. Q. Have you any means of knowing how many kegs Mr. Hauck has on hand, or how many are pitched each year?

A. I have a very slight idea as to how many kegs they have got on hand; I guess they have got about ten thousand or more, but they keep no record of them; they pitch and they are shipped away and a great many are lost and nobody knows what has become of them.

5 R. D. Q. Then, have you any reasons for your opinion that the kegs are pitched more than twice a year except guess-work?

A. Well, the reason is that the pitch does not stick thoroughly enough to the wood inside and it whittles off; it breaks off and forms in a lump; that is one reason why they have to pitch them more than they did by hand. I have seen kegs that had lumps of pitch in there as thick as my fist—right along the stave at the bottom of the head—and it takes a great deal of heat and fire to dissolve that by machine.

6 R. D. Q. State whether or not taking out the heads and burning out the kegs, as done by hand injures either the heads or the staves.

A. No, sir; it does not the least bit.

507 Recross-examination by Mr. BANNING:

1 R. X Q. Do you remember the first machine that was used at John Hauck's about September, 1878?

A. No; I do not remember when the first machine was brought there.

2 R. X Q. I am not asking you when; I am asking you if you remember the first machine.

A. Yes, sir; I remember it.

3 R. X Q. And when they commenced to use it?

A. I am not certain when they commenced to use it, but I remember seeing it when it first got there.

4 R. X Q. From the time they commenced to use it until they quit using it did they pitch all of their kegs with that machine?

A. They never pitched any by machine at that time, when it first got there, because there was a machine brought there for experiment that was made by Schreiber, on Walnut, near Liberty, but we never used it; we cursed that machine more than it was worth; once in awhile we did use it and it was no account—no good.

5 R. X Q. How long did you keep that machine there?

A. Kept it there a little while.

6 R. X Q. How long?

A. A few weeks.

7 R. X Q. Was it less than two months?

A. Well, I am not certain how long it was there; I know it was there a few weeks.

8 R. X Q. But only a few weeks?

A. I have a very poor recollection as to how long it was there; it has been so long ago, and I never bothered much about that.

9 R. X Q. What kind of a machine was used after that?

A. The one they have got now.

508 10 R. X Q. When pitching by hand did you ever see a cask or a keg take fire and burn up?

A. No, sir; but I did by machine.

11 R. X Q. Did you ever see any accident of any kind when pitching by hand?

A. No, sir; but I did by machine.

12 R. X Q. Did you ever see a man burned?

A. Yes, sir; they are burned, scalded, just as well as by machine, if they are not careful; it is their own carelessness that causes it; but there was an explosion there some years ago when they were pitching by machine; they had a cask and the cask exploded and blew out the head and set the cask right straight up, and burned.

13 R. X Q. Where was that?

A. In the John Hauck Brewing Company; and liked to have killed four men that were standing there; it struck one man on the shoulder.

14 R. X Q. Did you see it?

A. Yes, sir; I saw it; I know the fire alarm was given, and I thought the boiler had exploded; it turned the cask up and it was ablaze, and the men had presence of mind and set it on the open end and put sand and cinders and everything around there to smother the fire; the cask was put up in such a condition that it was hardly possible to put it back into its shape again—all smashed up; it struck the timber of the shed that they worked under and

the timber was eight by eight, and it knocked it off just like a match; these explosions happened more than three or four times in the Moerlein brewery.

15 R. X Q. There was water in that cask, was there not, which was turned into steam by the hot blaze?

A. No, sir; there was no water in it, because before they are pitched they are laid down and dried like the kegs are on the
509 bung-hole; there was no water in it, to my knowledge, because they are careful about that, and the pitch was in there, and they put in a red-hot iron to start the fire and the fire went out, and they went and built another, and as soon as the man put the other iron in the man-hole away it went; they had a red-hot iron to put in there to set the pitch on fire.

16 R. X Q. And when he put in that red-hot iron it exploded?

A. Yes, sir; it is dangerous there; unless they are accustomed to them it will blow out and burn his face; and he put the iron in and stepped back and it went off and struck his shoulder.

17 R. X Q. Then the explosion was caused by sticking a red-hot iron in the cask through the man-hole.

A. Yes, sir.

18 R. X Q. Then what did the machine have to do with it?

A. Well, they have got to do that in order to keep the pitch warm. The furnace is in the other cask and as soon as they take it out they fill it with charcoal and put it back into this one. This little fire is to warm it up inside, so the furnace won't have to do it all alone; that is done to every cask and in every brewery, too.

By the MASTER:

19 R. X Q. Was this explosion before the machine was applied to this cask?

A. Yes, sir; the head was in. If the head was out, if that had been pitched by hand, it never would have exploded.

20 R. X Q. By which method is the greatest heat attained in the interior of the cask?

A. By the hand method.

21 R. X Q. Please explain all the steps in hand pitching after the hoops are loosened and the head is taken out.

A. They have a kind of trestle there, and the first thing
510 after the head is out they put it on the trestle and lay the head on there.

22 R. X Q. Laying the keg slantwise on the trestle?

A. Yes, sir, laying down slanting that way (indicating) on the trestle.

23 R. X Q. With one head out?

A. One head is out and there is a pin in the hole. The pin is put in there, and then the man that does the burning takes a ladle of pitch, or half a ladle, and puts it in in small quantities, and then he takes the red-hot iron from the furnace and sets the pitch afire and stands it up to make it blaze, and then the head is put there so that the fire that comes out will strike the head and dissolve the pitch on here (indicating), and that runs into the keg, and then for

a minute afterwards he shuts it up, and then the fire is out, and then the other man that puts the heads in comes along, takes it off, knocks the hoops off, puts the head in, and puts the hoops back again. They have to rinse it first, and then the surplus pitch that is in there is deposited in another old keg, and then they put it on the roller.

24 R. X Q. Then, after it is taken off the rack and while it is being rolled around, the bung-hole and all other places are closed up so they are tight, are they not?

A. No, sir; there is not enough pitch in it to close it up.

25 R. X Q. I mean the bung is in the hole.

A. Yes, sir; the bung is put in and the other pin is driven in there to hold it.

26 R. X Q. Then when you have rolled it around the bung is knocked out and the surplus pitch is emptied out into
511 another old keg and then put on the roller.

A. Yes, sir.

27 R. X Q. Please explain also the steps taken in pitching by the machine.

A. They have them lying on skids in order to dry them and they take them off the skids, and all the difference is that the man just puts the keg—hooks it—on the pipe.

28 R. X Q. At that time all the places except the bung-hole in the keg are closed?

A. No; none of them are closed up. They are open. This end is down and the other head has the hole on the other side (indicating upon "Defendants' Exhibit Head No. 2").

29 R. X Q. Are the small hole in the head and the small hole in the bung-hole stave closed?

A. This is the only hole that is closed (indicating). This is left open and the hole in the head is left open (indicating).

30 R. X Q. The small hole in the head and the bung-hole in which the pipe is inserted are both open?

A. Both open. There is a table that the keg sets on with a screw which can be raised high or low, but he never has time enough to fit it exactly so as to get it in the center; so all he does is to hook it on; so the whole keg rests on the red-hot pipe and it burns the stave. This is all open, and the fire and smoke and gas and everything else comes out here, and here it goes in (indicating). When he has kept it on there three-quarters of a minute or a minute or so another man takes it off and puts the pitch in. He puts it in after it is burned. In hand-work you put it in before.

31 R. X Q. Did you say you put the pitch in through this small hole after you put the keg on the pipe?

512 A. Yes, sir; put it in through this small hole. You have the kegs completely heated inside before you pour the pitch in them, and then the pitch is put in through a funnel.

32 R. X Q. Do you know, as a matter of fact—have you ever gauged to ascertain the temperature on the inside of a keg in either of these methods?

A. No, sir; I could not say.

33 R. X Q. The pitch is a brittle substance, is it not, when it is cold?

A. Yes, sir.

34 R. X Q. In which method do you say the greatest thickness of pitch is placed on the inside of the keg?

A. By the machinery. You see the pipe is inserted and this stave will not get the least heat, because the pipe comes in here and the fire blows out this way, both sides, and up and down, and this side will not get the least bit of heat, only what comes back from the other side, then it strikes, but it will not get it directly.

35 R. X Q. The thicker the pitch on the inside of the keg the greater liability in the knocking about of the keg to break it?

A. Yes, sir; the thinner the better. We try to get it on as thin as possible. If it is thick the least little jar will make it come off.

36 R. X Q. In which method, the old way or by the machine, were the largest number of experienced coopers employed in pitching?

A. There was no experienced coopers employed in either method. As I said before, the brewers could do the work by hand just as well as any cooper.

37 R. X Q. In that exhibition that you gave at the Windisch-
513 Muhlhauser Brewing Company you say you had three coopers employed that were engaged in tightening the hoops, putting the heads in, and rolling them around and depositing them then on the incline where they were rolled?

A. Yes, sir; only three.

By Mr. BANNING:

38 R. X Q. Do you mean to say that you never introduce the melted pitch from the kettle when pitching by machine until after you have heated the keg?

A. Yes, sir.

39 R. X Q. Does not the heat from the machine after the pipe has been introduced into the keg stream up and pass out around the pipe through the bung-hole?

A. Yes, sir; it comes out smoke.

40 R. X Q. Formerly, when all pitching was done by hand, did not the brewers always inquire of a man wanting work at their brewery who might be put to pitching kegs and casks if he was not experienced in that kind of business, or a trained cooper?

A. Not to my knowledge.

41 R. X Q. Did not a man in learning the brewing trade also learn as a part of his business the opening and closing and tightening of kegs and casks?

A. Certainly; the same as he is now. We have apprentices there. They have to go through all of the branches.

42 R. X Q. Is as much attention given to that subject now as there used to be when the pitching was all done by hand?

A. Just the same.

By the MASTER:

43 R. X Q. In pitching by hand both the bung-hole and small hole in the stave and the hole in the head are closed?

A. After the head is in, yes, sir; then they are closed.

44 R. X Q. Before the head is in?

A. Yes, sir; before the head is in.

514 45 R. X Q. And the only opening is the head that is out?

A. Yes, sir.

46 R. X Q. Now, in pitching in that way, during a considerable part of the time in which the heating is going, on the head is laid on top of the keg, is it not?

A. Yes, sir.

47 R. X Q. Do you find any difference in the thickness of the pitch at the bottom of the keg where the fire is and the end of the keg that has the head out?

A. Not a bit. There is no difference.

(By agreement of counsel, signing of the depositions by the witnesses after the short-hand notes have been transcribed is waived, the same as in the Chicago depositions.)

515 GOTTLIEB SCHWARZ, being called by defendants and duly sworn, deposes and says:

(By consent of counsel, J. U. F. Windisch is sworn as interpreter.)

By Mr. PARKINSON:

1 Q. State your name, age, residence, and occupation.

A. Gottlieb Schwarz; age, thirty-six next September; residence, Cincinnati; brewer by trade.

2 Q. Where are you employed?

A. At the Lion Brewery.

3 Q. What part of the work do you do?

A. I have no particular position. I work at whatever branch the foreman may put me at.

4 Q. Do you have anything to do with pitching casks?

A. Off and on I help out.

5 Q. By what method are the casks pitched at the Lion Brewery, by hand or by machine?

A. By machine.

6 Q. Explain just how it is done.

A. After the fire has been started we put the pitch into the casks and then we set our machine to work, and it takes about seven to ten minutes, owing to whether the cask is moist or dry, to pitch these large casks.

7 Q. Have you ever known of any accident when pitching by machine?

A. I have heard of accidents; I have been injured myself in that way.

8 Q. State the facts about this injury to yourself.

A. Do you want me to go into the particulars of how it occurred?

516 9 Q. You may state generally and then we will ask you questions as we want more of the details.

A. It will be four years the 24th of the coming November; it occurred in the Lion Brewery; I had charge of the pitching at that time, and after I had raised steam sufficient I started up the fire in the oven; I put in my wood and then put a shovelful of fire out of the boilers and then put on this coke, and after the gas had been all blown out I rolled up my hogshead and made the connection between the oven and the hogshead. We have a habit of marking the casks up there that we pitch, marking the first cask "one" and the second cask "two," and while I was putting one on the bottom of the cask the bottom was blown out and I was injured. I was standing at the back marking the cask and the bottom was driven out.

By the MASTER:

10 Q. Was this while it was on the pipe?

A. This was while the attachment was made with the oven.

11 Q. What were the injuries you sustained?

A. I was injured while I was lying on the ground. A part of the bottom caught fire and set fire to my clothes and I was burned on both legs, and I was also injured on my chin and on the forehead and on my nose, so that my physician had to take the bone out of my nose.

12 Q. How long were you disabled?

A. I was unable to do anything for three months.

Cross-examination by Mr. BANNING:

13 X Q. What was in that cask?

517 A. There was pitch and hot air in it.

14 X Q. Was not there some water in that cask?

A. I do not know.

15 X Q. How long have you been at the Windisch-Muhlhauser Brewery?

A. I was there two years, from 1868 to 1870, and another time I was there about six years, and now I have been there a year and a half; the books will show.

16 X Q. How often did they pitch their kegs on the machine?

Objected to by counsel for defendants as not being a matter called out by direct examination.

A. The kegs that are used about the city are pitched twice a year, and the kegs that are sent off from the city are pitched whenever they need it.

17 X Q. Has that been so since January, 1876?

A. That has always been the case; by machine and before they had the machine.

18 X Q. Did you ever know a cask to explode at any other time when the machine was used?

A. I do; I know of casks exploding at Moerlein's and Hauck's, but not at our place; that is the only time it occurred at our brew-

ery, although I have been there several times when the whole cask was thrown off for a distance; not exploded, but shoved off from the oven.

19 X Q. Did you see these explosions at Hauck's and Moerlein's that you speak of?

A. No; I have heard of them; I was not present.

20 X Q. Did you ever see an explosion when pitching by hand?

A. No.

By the MASTER:

518 21 X Q. Or any accident take place?

A. I have never witnessed an explosion; but in pitching by hand some of the casks, I suppose from the pressure of the igniting of the gases, have thrown the men that held the lid up against the hogsheads on the ground; they were holding the lid against the casks, and it just pushed them away.

22 X Q. Did the men working ever get burned in pitching kegs or casks by hand?

A. I have never seen any one burned in this country, but I have seen it in the old country.

23 X Q. Have you seen any accident other than the one you have described in pitching either kegs or casks by machine?

A. No; I have not.

Redirect examination by Mr. PARKINSON:

24 R. D. Q. Have you ever seen men burned when pitching by machine aside from the accident you have told about?

A. No; I have never seen anybody burned; I have heard of persons being burned, but I have never seen them burned.

25 R. D. Q. Have you ever seen men seriously injured by the heads of casks when pitching by hand?

A. I have seen some burned, but not seriously; but I have never seen an explosion.

By the MASTER:

26 Q. Do you know how many kegs have been in use annually in the last four or five years at the Windisch-Muhlhauser Brewery?

A. I think about thirty thousand in use, quarters and halves and eighths; I cannot tell exactly, but I think about thirty thousand.

27 Q. Has the number of kegs in use been increasing or
519 running along about the same in the last four or five years?

A. It has been increasing somewhat.

28 Q. About how much in a year—say from 1876 to 1880?

A. I think about five or six thousand.

29 Q. I understand you, then, that you have five or six thousand more kegs in use now than in 1876?

A. That is the understanding; I think we have got five or six thousand more kegs in use than we had seven years ago; I do not state that definitely, but about that many.

By Mr. BANNING:

30 Q. And about how many did you have in use seven years ago?

A. I cannot tell exactly; I cannot tell within two or three thousand.

31 Q. State as nearly as you can.

A. When I came there they had been marking them up to fifteen thousand; then they quit for awhile and then they marked about twelve thousand more and then they quit again.

32 Q. Do you mean that they had twelve or fifteen thousand in use during the year 1876, say?

A. No—before; about twenty-seven thousand.

By the MASTER:

33 Q. About how many of these were in use in the city trade and how many in the country in the year 1876?

A. I am unable to tell.

34 Q. Can you state approximately what the proportion of shipping trade and local trade was?

A. I think about three thousand in the city and the balance in the outside trade.

35 Q. During all the time you have been employed at the Windisch-Muhlhauser Brewery have they pitched the kegs that
520 were in use in the city trade about twice a year, as you stated?

A. Twice a year during that time. I will make this exception, that if there was some city kegs brought home that were in bad shape they would probably be put to one side and looked over closely, and if they needed pitching they were pitched immediately; but as a general thing they were only pitched twice a year.

By Mr. BANNING:

36 Q. How often were those that were used in the country trade pitched a year?

A. I cannot exactly tell that; the same keg might have been pitched two, three, four, five, or six times, just owing to what condition it was in when it came back.

By the MASTER:

37 Q. Take it as an average for all the kegs that were in use in the country trade, would they pitch them that many times a year?

A. I think probably four or five times on the average.

By Mr. PARKINSON:

38 Q. Have you any means whatever of knowing how many kegs are kept on hand?

A. The way I got at the figures during 1876, when I first got there, was just by the number on the kegs; they were all numbered at that time; and, although they have not been numbered for the last six years, I think that there has always been enough added to replace those that were lost, and more, too; that is the way I have of getting at it.

39 Q. Have you any means of knowing how many of these numbered kegs were missing when you went to the brewery?

A. No; I have no way of knowing.

40 Q. Have you anything to do with the buying of the kegs?

A. I have nothing to do with the buying of them.

41 Q. Who has charge of the pitching in the brewery?

521 A. I have not charge of that. A man by the name of F. X. Schmitt has charge of the pitching.

42 Q. Have you any means of knowing when you pitch a keg whether that keg has been pitched one or more times during the year?

A. I have means of knowing whether a keg has been pitched once or oftener.

43 Q. What means?

A. They mark them in various ways. Some are painted and others are marked with brands; chalk marks on them. I have various marks by which I can tell whether they have been pitched once or oftener; and occasionally there is a keg comes along that has a queer shape, and we can tell by that when it makes its round again to be repitched.

44 Q. What is the nature of these marks?

A. Kegs often come from the country that are painted, daubed up, have various marks of that kind on, and we can always tell when they make the round to be repitched.

By Mr. BANNING:

45 Q. Did you not say there were chalk marks on them?

A. No, sir; I said they had brands on them.

By Mr. PARKINSON:

46 Q. How do you know when these marks are put on?

A. These are marks that had been put on by other people outside that I judge by. I have no way of telling just when the marks have been put on.

47 Q. When you see this mark the second time can you tell how long it has been since you last saw it?

A. No; I cannot tell that. We do not watch those things so close as to tell.

522 J. U. F. WINDISCH, being called by defendants and duly sworn, deposes and says:

By Mr. PARKINSON:

1 Q. State your name, age, residence, and occupation.

A. J. U. F. Windisch; age, twenty-eight; residence, 96 Fourteenth street, Cincinnati; occupation, secretary of the Windisch-Murlhauser Brewing Company.

2 Q. State whether or not you were present on Wednesday morning last when a number of kegs were pitched by hand at the Windisch-Muhlhauser Brewery, and, if so, state the number of men employed, the number of kegs pitched, and the time required.

A. I was present. There were seven men employed; fifty kegs pitched, in about twenty-five minutes.

3 Q. State, if you know, whether the men employed have been in the habit of pitching by hand for the last few years.

A. Well, they have not, to my knowledge, been pitching by hand for the last few years, because we have not been pitching that way.

4 Q. Are you familiar with brewing?

A. I am, somewhat.

5 Q. State what preparation of the keg is necessary for pitching by machine.

A. Well, they all want to be cleaned, and then they want to be as dry as possible, and there wants to be some pitch added.

6 Q. State whether an examination of the keg is ever required and for what purposes.

A. The examination of the kegs is required for the purpose of seeing the condition, as to whether the pitch is off, blistered, you know, and so forth, and also taking out anything that may have been forced through the bung-hole.

523 By the MASTER:

7 Q. Pieces of corks?

A. Pieces of corks, and so forth, that are left in there; yes, sir.

8 Q. Can pitching by hand be carried on under cover, and how is it usually done in crowded cities?

A. Well, I have never seen it done, so to say, outside of our place, and we have our kettle under roof and machine also. We do our pitching under roof; always have done it, I think.

Cross-examination by Mr. BANNING:

9 X Q. You mean when you are pitching by machine that you pitch under the roof?

A. When we are pitching by machine; yes, sir; we pitch under roof by machine.

10 X Q. Did you ever pitch under roof when pitching in the old way, by hand?

A. I think we always did, according to my recollection; it has been so long since, though.

11 X Q. In pitching kegs by hand don't you always look into them to see whether they need to be pitched the same as if you intend to pitch them by machine.

A. We make an examination the same as if we want to pitch them by machine.

12 X Q. How long since you began to use iron-bung bushes?

A. That I cannot exactly say.

13 X Q. Do you know what they cost?

A. I do not.

14 X Q. Or about the expense of putting one into a keg?

A. I do not.

15 X Q. The men that did this pitching which you saw day before yesterday by hand were men who had formerly been experienced in that kind of pitching, were they not?

524 A. Well, they were practical brewers, and as practical brewers they ought to have some knowledge of pitching by hand.

16 X Q. Are they all employed in the brewing business now?
A. Yes, sir.
17 X Q. At what breweries?
A. They were, I think, principally from our brewery.
18 X Q. There were seven men, were there?
A. Yes, sir.
19 X Q. How many of them were from your brewery?
A. Five from our place and two from Hauck's.
20 X Q. How many of them were coopers?
A. There was our cooper and Hauck's cooper.

(Recess.)

525 JOHN HAUCK, recalled for defendants, deposes and says:

By Mr. PARKINSON:

1 Q. You are the same John Hauck who has already testified in this case, are you?
A. Yes, sir.
2 Q. When you were last examined in this cause you were asked, "How many men are ordinarily employed when pitching with this machine, including those who roll the kegs and tighten the hoops, and what is the number of kegs pitched per hour in ordinary practice?" Please state whether or not you intended to include in this estimate the number of men employed to tighten the hoops.
A. I did not mention them, for tightening the hoops is a different thing. It was only for pitching. Six to seven men I counted for pitching and rolling; sometimes five. It depends upon how quick they want to work; then a different set of hands to tighten the hoops.
3 Q. About how long do kegs last upon the average when pitched by hand and about how long when pitched by machine?

Complainant's counsel states that he intended the objection made this morning in Jacob Frech's deposition to apply to similar questions in all the depositions that might be taken.

A. Well, I have found since we have been using the machine the kegs do not last as long as they did at the time we had them pitched by hand. By my figures and estimation I do not think that they last over four years on an average at the highest.
4 Q. What effect does the driving of the hoops when pitched have upon the duration of the kegs?
526 A. That is owing to the way the keg is tightened. The more it is tightened so much more shrinkage there is, breaking the head in and making the keg smaller, so that it would not last as long as it would if it did not get pitched so much. By often driving and pitching, of course, they get pressed together and the head will split.

5 Q. By which method do the kegs require to be pitched most frequent—by hand or by machine?

A. They are oftener pitched by machine than by hand, because the hand pitching lasts longer than the machine pitching.

6 Q. What preparation of the kegs is necessary before pitching by machine?

A. All the hoops have to be driven tight and examined by the gaslight to see if there is any defect in the pitch or any blister.

7 Q. State whether it was usual to make this examination when pitching by hand and what reasons there are for making it when pitched by machine which did not apply when pitched by hand.

A. We did not find the kegs in such a defective condition after they were pitched as we found them since we used the machine. That was the pitch breaking loose and requiring to be pitched. In the former time the pitch was lasting for a length of time without any breakage—without any defect of the pitch.

8 Q. State whether or not pitching by hand can be carried on under cover.

A. Pitching by hand could be carried on under cover.

9 Q. Under roof?

A. It could be carried on under roof; yes, sir.

527 10 Q. How was it done in your brewery when you pitched by hand?

A. We pitched under a shed—under a roof.

11 Q. By which method is there most liability to accident?

A. In my opinion more accidents could occur with the machine than by hand pitching. No accident could occur by hand pitching; it was impossible.

12 Q. How long did casks last upon the average when pitched by hand?

A. We never pitched any casks by machine—by this kind of machine.

By the MASTER:

13 Q. He asks how long they last when pitched by hand.

A. That is not the way we are pitching at present.

14 Q. Do you use the pan?

A. Yes, sir; we do not use anything else except the pitching pan.

15 Q. How long do they last that way?

A. We have got some casks in for from fifteen to eighteen years.

16 Q. Have you ever pitched casks by hand?

A. We have done it in the first years, where we bought a lot of casks without a man-hole in them. There were some casks without a man-hole in them. Afterwards all the casks had a man-hole, so we do not use the hand.

By Mr. PARKINSON:

17 Q. About how much pitch is required to pitch a thirty-barrel cask by hand or by the pitching pan?

A. Well, that is mighty hard to state until I would go and get the new casks and commence on it; but if a cask is once well pitched it does not need much pitch at all; very little.

18 Q. State the amount required, as nearly as you can, after the cask has been once pitched.

528 A. A quart to a half a gallon; not more. I do not think it is more than a quart of pitch.

19 Q. State whether or not, in pitching by hand, the heads of the kegs or the ends of the staves are injured by the flame.

A. No, sir.

Cross-examination by Mr. BANNING:

20 X Q. In saying that kegs won't last more than four years, by which way of pitching do you have reference to?

A. Well, I say by the amount of kegs we have to buy.

By the MASTER:

21 X Q. By hand or machine?

A. By machine.

By Mr. BANNING:

22 X Q. Do you mean to say they will not last longer than four years when pitched by the machine?

A. No, sir.

23 X Q. How long will they last when pitched by hand?

A. From five to six years.

24 X Q. So that they will last a fourth or third longer when you pitch by hand than by machine?

A. Yes, sir.

25 X Q. Why is it that they wear out faster when pitched by the machine?

A. They get oftener pitched and get smaller. Every time they are pitched it requires driving the hoops, and the heads break and the kegs get, in fact, so small that we cannot use them any more. We have to go and work them over into eighths.

26 X Q. How often do you pitch the kegs by hand a year?

A. Twice a year.

27 X Q. And you pitch them more when using the machine than you do by hand?

529 A. Yes, sir; sometimes they get pitched six to eight and ten times in a year when using the machine.

28 X Q. When is it that you tighten the hoops when pitching by the machine?

A. Before we put them through the machine.

29 X Q. That is, before they are put on the machine.

A. Yes, sir.

30 X Q. You say that you examine them by gas-light to see whether they need to be pitched.

A. Yes, sir.

31 X Q. Do not you do that when you are pitching by hand?

A. No, sir.

32 X Q. Do not you examine them to see whether they need pitching?

A. Yes, sir; they examine them, but not so often, and we find no necessity for that; we find them pitched and marked pitched, and we lay them aside.

33 X Q. Do you knock off the hoops and take out the heads before you examine to see whether they need pitching?

A. No, sir.

34 X Q. How do you know when you are pitching by hand whether the keg needs pitching if you do not examine it?

A. If you make an examination and there is a mark made on the staves that shows it is pitched, and you go and take one in ten and lay them to the light with this hole and look in and you can see the whole pitching.

35 X Q. Then you do make an examination when you pitch by hand?

A. Once in awhile they go and make an examination, but only by the eye.

36 X Q. And you make the same examination by eye when you are pitching by machine?

A. No, sir; we cannot do it.

37 X Q. Why cannot you look through the same hole?

530 A. We can look through the same hole, but by the machine the side is the defective part.

38 X Q. Cannot you look in at the bung-hole or hold that to the light and look in the other hole?

A. If you look any way you can only see the lower part.

39 X Q. Suppose you look in at the end just as you do when you pitch by hand; cannot you see just as much by machine?

A. You can see only half of it, but if you find one-half is defective you are sure the other is defective.

40 X Q. Cannot you see just as much of the keg when you are pitching by machine as by hand if you look in the same hole?

A. No, sir; you could not see it by the eye; you must have a close examination by a light.

41 X Q. You say, too, that it takes more pitch when pitching by machine than it does by hand?

A. I do not want to say it takes more; I do not want to say it takes any less.

42 X Q. When did you commence to use iron bung bushes for the bung-hole?

A. Last year.

43 X Q. How much do they cost you to get them into a keg?

A. About six or seven cents.

44 X Q. Six or seven cents a keg?

A. Yes, sir.

45 X Q. How did that stave get split (showing "Defendants' Exhibit Bung-Hole Stave")?

A. That is an oval hole and has to have a big bung, and by having a big bung, of course, it breaks the stave.

46 X Q. That is, the man struck it too hard and drove it in too far.

A. Of course, that wants to be tight, because it is oval.

531 47 X Q. What was the reason you commenced to use bung bushes?

A. That is the reason—to prevent burning out and the holes getting oval.

48 X Q. If you did not use the machine you would not use that bung bush?

A. No, sir.

49 X Q. In which way do the casks last longer—by hand or by machine pitching?

A. By this machine or by this pan?

50 X Q. By this machine, the Gottfried machine?

A. We never used it, so I cannot give a statement on it.

51 X Q. If it requires from one-fourth to one-third more kegs when pitching by machine than by hand, and requires you in addition to spend seven or eight cents a keg to put in an iron bung bushing, why is it that you use the machine, and why have you kept using it up to the present time and sustaining such a loss?

A. We have not got the hands any more that we used to have.

52 X Q. What is the matter; cannot your ordinary hands pitch by hand?

A. No, sir; not at present.

53 X Q. Does it require skilled men to pitch by hand?

A. They have to learn it. In former times every one of the brewers had to learn it, but at the present time none of them learn it any more.

54 X Q. They do not learn it now because the pitching is generally done by machine?

A. Yes, sir.

55 X Q. Is that the reason?

A. That is the reason.

56 X Q. Then you could not take your ordinary men and pitch now by hand?

A. I have to break them in and get them trained to it.

532 57 X Q. And you have to have skilled coopers, too, do you not?

A. No, sir; if I break my men in I do not need any cooper.

58 X Q. Of course not, if you learn them the cooper's trade. Do you mean to say that a keg is broken up more by pitching by machine than it is by driving off three of the hoops and taking out one of the heads, and thus loosening it?

A. Yes, sir.

59 X Q. You will swear to that?

A. Yes, sir.

60 X Q. You think it benefits the keg, do you, to knock off three of the hoops, loosen up the cracks, and take out the head?

A. We only loosen it twice a year, and would otherwise have to tighten it ten or twelve times.

61 X Q. Do you not think it would benefit the keg just as much more if you would take out both the heads and knock off all the hoops instead of knocking off half of them and taking out one head?

A. I cannot answer this. Take out both heads and throw away the staves?

62 X Q. What brewers are paying the expense of this litigation?

Objected to by counsel for defendants as immaterial, incompetent, and not called out by direct examination.

A. I cannot answer the question.

63 X Q. Are not all the brewers here practically combined together and contributing to the expense of this litigation—nearly all the Cincinnati brewers?

Same objection.

A. I cannot answer the question.

64 X Q. Are you paying all the expense of this litigation alone?

A. I cannot answer the question.

533 65 X Q. Why cannot you answer it?

Same objection.

MASTER: A wide latitude is usually given in cross-examination into any matters that may affect the credibility of a witness, and while I am not clearly satisfied that this question properly comes under that head, I will for the present permit it to be answered, subject to be stricken out hereafter.

A. Well, I do not know who have to pay it; if one has to pay it *or* all the rest will have to pay it.

66 X Q. I am not asking you about the payment of any judgment, but I am asking you about the payment of the expense of this litigation.

A. That is just what I said before; I cannot answer this to-day.

67 X Q. Are you paying all of your lawyers' fees?

A. I cannot answer the question.

68 X Q. Why cannot you tell whether you are paying all of your lawyers' fees or not?

A. Well, I cannot answer this question.

69 X Q. Well, tell me why?

A. I cannot answer it because a man cannot answer before he has everything in a settlement; so I cannot answer what I have to pay.

By the MASTER:

70 Q. Mr. Hauck, in which method of pitching is the pitch thicker, when cold, on the inside of the keg?

A. In the machine pitching.

71 Q. How hot does the inside of the keg become in machine pitching? What is the temperature?

A. Well, it must come to a melting heat.

534 72 Q. Do you know as a matter of fact how hot it becomes on the inside of the keg?

A. That is mighty hard to say, because we cannot put anything in. The pitch has to be brought to a melting heat.

73 Q. You say by machine pitching there is a greater thickness of pitch on the inside?

A. By machine pitching the heat comes right in here in the center right opposite the entrance of the pipe, while the lower part keeps cold and the pitch never melts right; that is this part here right by the bung-hole, and over there on the other side it burns a lot of blisters, while on this side it keeps cold and does not get the same heat that it gets on the other side close to the other end (indicating).

74 Q. In pitching by machine do you have a small hole in the bung-stave and a small hole in the head?

A. They have a small hole in the head and a big one in the bung-stave.

75 Q. Do you have them open or closed?

A. That end is open; that is what they use for tapping the keg in the right way to tap it (indicating). In some cities they tap it right here (indicating); this is closed.

76 Q. Is there a small hole in the head closed?

A. Yes, sir; that is right here, and there is where the pipes run in and the heat goes out here.

77 Q. Do you put the hot pitch on the inside of the keg after you pitch on the machine or before?

A. Before we put it on the machine we lay them this way and put the funnel in and put some hot pitch in, and then we put them this way on the pipe (indicating).

535 78 Q. Is that the way it is done at your brewery?

A. Yes, sir.

79 Q. In pitching by hand, while the pitch is burning one head is out, is it not?

A. One head is out.

80 Q. Do you find any difference between the heat of the keg at one end and at the other?

A. As quick as the fire commences to start the flame will strike out and that melts the pitch.

81 Q. Do you find that it becomes as hot and the pitch melts as readily at the end where it is open and exposed to the cold air as it does at the other end?

A. Yes, sir; where the fire strikes out it is a great deal hotter than in the rear; the draft gives it more heat.

Redirect examination by Mr. PARKINSON:

82 R. D. Q. When pitching by machine, can green hands pitch as rapidly and efficiently as those who are broken in?

A. No, sir.

83 R. D. Q. State whether or not it is as necessary for men to be familiar with pitching by machine in order to do good work as it formerly was for men to be trained to pitch by hand.

A. Yes, sir.

84 R. D. Q. In stating the cost of putting in bung-bushes did you give the purchase price of the bush or did you include also the cost of putting it in?

A. Only the cost of the bushes; that is my opinion. I do not want to state that it is exactly right; I should have to look over the bills; but to my best belief that is about the price of the bushes.

536 85 R. D. Q. State whether or not it makes any difference as to the price whether these bushes are purchased in large quantity or small quantity.

A. Well, small quantities are higher priced than large quantities.

86 R. D. Q. Do you know whether the evidence in this accounting is being taken in each case separately or whether the evidence in all the cases is being taken together?

A. It is taken by itself, separately; that is all I know—that it is taken separately.

87 R. D. Q. In what part of the keg are the defects most likely to occur in machine pitching?

A. The center part and the top, the head.

88 R. D. Q. Is it possible by any examination, without taking the heads out, to discover the defects in the heads?

A. No, sir; you cannot find it until you take the head out; if there is a defect in it you cannot see it with the light.

89 R. D. Q. What effect do these splits in the head to which you have referred have upon the beer?

A. They have souring stuff behind them, and that will go into the beer and spoil the beer.

By Mr. BANNING:

90 Q. You have said that you tightened the hoops in machine pitching before pitching the kegs?

A. Yes, sir.

91 Q. Do you not do this same thing when you are pitching by hand?

A. Tighten them afterwards.

92 Q. Is not this tightening of hoops caused by the kegs standing in the sun and getting dried out after the beer has been taken out?

A. Therefore they have to be tightened before we bring them to the machine.

537 93 Q. Won't that same cause make the hoops loose on the kegs that have been pitched by hand?

A. Well, it will make them loose, but still the driving comes after the pitching, and there we have got it before the pitching; that is all the difference. We have to drive the hoop after the pitching, where we have to drive it before the pitching by machine.

94 Q. And you would not have to tighten the hoops if the kegs, after becoming empty of the beer, did not stand in the sun or become dried out?

A. We have to dry the keg, otherwise we cannot pitch it by machine. We cannot even drive it, pitching by hand. The keg must be dry, otherwise the pitch will not stand and take on the wood. The wood must be dry.

95 Q. When the machine heats the keg does that dry it?

A. No, sir.

96 Q. Does not that drive all the moisture out?

A. If the moisture is in it and you bring the heat in you have to expect to get an explosion, because in bodies where there is any moisture you will find that it rises up and is boiling over, but as quick as the wood is dry that is all prohibited.

97 Q. These cracks that you have spoken of are in such a position that the beer can get into them, are they?

A. Yes, sir.

98 Q. And become spoiled?

A. Yes, sir.

99 Q. Now, if the pitch were heated until it flowed like water or beer would not it also flow in and fill all these cracks up?

A. I cannot keep all the pitch in.

100 Q. If you made your pitch fluid enough in the keg would not it flow into all the cracks that the beer could flow into?

A. No, sir; it goes so quick it never will fill these holes;
538 it will probably fill it a little bit and the balance of it is open, and such a lot of stuff will be left it will not cover the hole.

101 Q. How is it that the pitch, when made as fluid as beer, will not flow into and coat every crack that the beer could possibly go into?

A. That could only be done if we would go and turn the keg around and the pitch stand there for awhile, so that it will get time to settle in this hole.

102 Q. Do not you always turn your keg so that the pitch will flow into every part?

A. We turn it, but it goes so quick that it will not go and fill the holes and cracks; it is just twisting around. If there is a little bit of pitch that will probably cover a little bit of hole; the biggest part is open.

By Mr. PARKINSON:

103 Q. Would it be possible by any degree of heat to make pitch as thin as beer?

A. No, sir.

By Mr. BANNING:

104 Q. Did you ever try it?

A. That is an impossibility.

105 Q. Why is it impossible?

A. The beer is as thin as water, where pitch has got more substance, and the biggest part of our beer is water.

106 Q. Are you a chemist?

A. I know a little something about it.

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105 Q. Why is it impossible?

A. The beer is as thin as water, where pitch has got more substance, and the biggest part of our beer is water.

106 Q. Are you a chemist?

A. I know a little something about it.

539 WILLIAM GERST, being called by defendants and duly sworn, deposes and says:

By Mr. PARKINSON:

1 Q. State your name, age, residence, and occupation.

A. William Gerst; age, thirty-six; residence, Brown street, No. 234, Cincinnati; occupation, brewer—foreman for the C. Moerlein Brewing Company.

2 Q. How many years have you been engaged in the brewing business?

A. I have been working in the brewing business since 1864; my father had a brewery; my brother has it now.

3 Q. Are you familiar with the hand and machine methods of pitching kegs or casks?

A. Yes, sir.

4 Q. How did you pitch the casks at the Moerlein Brewery?

A. We pitch them now with the pan. Formerly—three years ago—we pitched them with a stove—with a machine—but I did not like it well with the machine, so we use the pan now.

5 Q. How many men does it require for pitching the large casks by hand and how many by machine?

A. You need the same hands to pitch them by machine and by hand. The only difference is that you can use men for machine that are not so good as you have to have for pitching by hand. You have to have good men to pitch by hand, who understand the business that each one has got to do.

6 Q. By which method do you obtain the best results?

A. By pitching by hand.

7 Q. In what respects is the result better?

A. The result is, if you pitch with a machine, that within about two years the pitch on the bottom gets about three or four
540 fingers deep and it is not good. If you bring the casks in the cellar, so the pitch gets loose, then the wood comes out and the beer comes in contact with the wood; this falls off (indicating upon "Defendants' Exhibit Bung-Hole Stave"). The old pitch gets loose less by hand than by machine. We have to take the old pitch away and the new pitch covers the hole inside nicely, not too deep, like varnish.

8 Q. By which method is the most pitch required?

A. Well, I believe it takes more pitch by machine than it takes by hand, but of course the pitch will get larger and thicker on the bottom and some places on the staves too, sometimes.

9 Q. By which method are the casks injured most?

A. Well, there is not much difference in that; it stands pitching by hand the same as by machine.

10 Q. State whether or not pitching by hand can be carried on under cover.

A. Of course; we need a shed for both—pitching by hand or pitching with a machine.

11 Q. How long do kegs last, upon the average?

A. Our kegs last, on an average, from three to five years.

12 Q. Do you refer to kegs pitched by machine or pitched by hand?

A. Well, I like it pitched by hand better than by machine. It is necessary for a brewer to have the kegs pitched by hand anyhow every two years—open them—on account of the bottom. I found fault a great deal this spring. I had trouble in the Jackson Brewery. I was there seven years—five years foreman. The complaint was made about the beer. The beer was nice in the large casks
541 and the beer ought to be nice in the kegs, too. Some said it was sour, and so forth, and I said, "I will have to see about the kegs," and we opened the kegs and pitched all the kegs by hand, and in about a year I found sometimes twenty, thirty, or forty that was split like this (referring to Defendants' "Exhibit Head No. 2"), and of course the yeast and beer was in it and it smelt sour and made a bad taste in the beer. I had to take them away and put new bottoms in. It is necessary for a brewer to have the kegs pitched in about two years anyhow, so you can see how the bottom is. You cannot see how the bottom is with a light; the men look through, but they cannot see that; we have to take the bottom out to find out what it is. It is necessary for a brewer to have the kegs pitched by hand every two years.

13 Q. Did you find it necessary when pitching by hand to light out the casks?

A. No. When you pitch them by hand you take the bottom out and clean it afterwards, when the bottom is out. You don't need any gas for that. You unfasten the hoops on the bung side and let them loose on this bottom here and take the bottom out and clean them; otherwise, in pitching by machine you have to clean them before you pitch them; you have to take the gas, you know, and light it through to see if it is clean or not.

14 Q. Do you use iron bushes?

A. Yes, sir.

15 Q. What is the object of the iron bushes?

A. We use them on account of the stave; the pipe gets red-hot, and if you have no bushes in the bung burns out; and also on account of the bung, using the same size of bung. It is necessary to have them on account of the pitching, on account of the pipe, and at the same time it is good for the bung.

16 Q. Is it necessary for the men who pitch by machine to
542 be taught how to pitch by machine?

A. Well, we need a good man to pitch by machine at the stove the same as in pitching by hand. The difference between pitching by hand and by machine is that you can pitch by machine if you have got two good men, and if you pitch by hand you need four or five good men.

17 Q. What do the two good men do in pitching by machine?

A. One is at the machine and one is at the pitch kettle attending to the fire and to the pitch so that it does not get too warm but keeps warm enough. The man at the stove must know when the keg is done.

18 Q. Do you include the engineer?

A. No; we do not need any engineer about that.

19 Q. What do the four good men do when pitching by hand?

A. Well, one has to attend to the kettle the same time and the other one has to hold the bottom and attend to the fire, and the other three or four—whichever you take—put the bottom in and fasten the hoops, and two of them for rolling.

20 Q. Does it require men trained as coopers to put in the heads and fasten the hoops?

A. Yes, sir; it is pretty near necessary for that; it needs men who understand the business.

21 Q. How is it with regard to tightening the hoops when pitching by machine?

A. The fastening is the same thing as in pitching by hand. You have to fasten the hoops in pitching by machine the same way as in pitching by hand.

22 Q. Does it take good men to fasten the hoops?

A. Well, not so good as to put the bottom in. Of course it needs good men to put the bottom in and of course he fastens the hoop right away, too. I have got about ten men fastening
543 hoops now, and I have got four or five and not one is worth a cent for it. I have got more leakage now than I had years ago. When the kegs get full they leak. It takes good men to fasten the hoops both ways.

23 Q. How many of these ten men are coopers?

A. About five or six. I am a cooper myself by trade; I learned the cooper business before I learned the brewer's business.

24 Q. About how many kegs would seven men pitch by hand in an hour upon the average, taking the forenoon through?

A. From seventy-five to eighty kegs.

Cross-examination by Mr. BANNING:

25 X Q. How long have you been working for Moerlein?

A. I am there now three years and a half; I worked there before, in 1869, 1870, and 1871; I have been there as foreman three years and a half.

26 X Q. When did you begin to work for him?

A. I began to work on the 28th of January three years ago.

27 X Q. I meant first.

A. 1869, 1870, and 1871; I went, I believe, on the 16th of September to the Jackson Brewery.

28 X Q. Did he have a machine when you worked for him in 1871?

A. I believe he had one at that time, but I am not sure; I was cellar man there and I had not much to do with the pitching yard.

29 X Q. Did you help do the pitching at that time?

A. No, sir; not in Moerlein's.

30 X Q. How often do the kegs have to be pitched by machine?

544 A. We have got some shipping kegs that we have to pitch every time the kegs come back; some of the kegs come back

in one month, some in two, and some in four; I have some kegs that come back only about two times a year, and some in fourteen days.

31 X Q. Do you pitch them every time they come back?

A. Every time.

32 X Q. How often do the kegs used in the city business have to be pitched?

A. In the city business we light them through with the gas and pitch them when it is necessary.

33 X Q. How often is it necessary, on an average?

A. You find in a thousand kegs maybe forty or fifty every day you have to take out and pitch.

34 X Q. I mean on an average during the year how many times do you pitch them?

A. You can say that it is necessary to pitch them twice, anyhow.

35 X Q. When did you commence to use the pitching pan again?

A. In the fall of 1880; I believe it was October when we started in pitching, in 1880.

36 X Q. In saying that kegs last from three to five years, by which method of pitching do you mean?

A. By both ways.

37 X Q. In which way of pitching do they last longest?

A. Well, as much as I have found out there is not much difference in them; I have found out that the kegs pitched by machine wear out quicker than kegs pitched by hand, on account of the heat; the heat from the pipe is so hot that the wood dries out and you have to fasten the hoops tighter; the hoops go down more by pitching by machine than by pitching by hand, and I have found out that
545 in about two or three years the belly or side of the kegs will be very small.

38 X Q. When do you tighten the hoops in pitching by machine—before or after the pitching?

A. Before pitching.

39 X Q. Why do you tighten the hoops?

A. We have to tighten the hoops to get the staves together for the first reason, and the second is so the pitch will keep in.

40 X Q. What makes the kegs get dry—standing empty after the beer has been used out?

A. Yes, sir.

41 X Q. Do not they get dry just as much when they are pitched by hand, if they stand empty after the beer is used out?

A. Yes, sir.

42 X Q. When you find them loose in that way you tighten the hoops?

A. Yes, sir.

43 X Q. Do you do that when you pitch by hand?

A. When we pitch by hand we tighten the hoops only on the back side of it, and let the other hoops in front loose.

44 X Q. That is, you tighten the other hoops you do not take off?

A. Yes, sir; tighten them and let the others loose, and take the bottom out right away, so when you pitch the keg and the keg is

done with the fire and the pitch is in it you can take the three or four hoops off easy.

45 X Q. What was it caused this head to split (showing Defendants' Exhibit Head No. 2)?

A. I believe the heating of the kegs makes that, and then tightening the hoops.

46 X Q. Is not this caused by the seasoning of the wood?

A. No, sir.

47 X Q. Does not the dishing of this head show that the keg was made of unseasoned wood, and that the seasoning caused
546 the splitting (showing witness "Defendants' Exhibit Head No. 1")?

A. I have found it in dry kegs; I have bought dry kegs, and I found the same thing—the splitting of the bottom.

48 X Q. That is, you bought new kegs?

A. Yes, sir.

49 X Q. And found them split in that way?

A. No.

50 X Q. What do you mean by dry kegs?

A. It is very different when you buy a keg when the wood was not dry enough when the keg was made. Of course, then I believe the keg will split; if you get dry wood and make a keg of that and you find this splitting here it is not the fault of the wood.

51 X Q. Have not you seen kegs split like that that had never been pitched?

A. No, sir.

52 X Q. What kind of kegs, then, were they that you bought dry?

A. Kegs from the cooper.

53 X Q. Kegs from the cooper that had never been used with beer in them?

A. No, sir.

54 X Q. Then they were new kegs?

A. Yes, sir.

55 X Q. But still they were split like this?

A. I cannot tell that.

56 X Q. I thought you said you had bought dry kegs that were split like that?

A. O, no; I did not say that; I said we bought some dry kegs and I found out when we used the kegs a year or two they were split here; on that account I believe it is not the fault of the wood.

57 X Q. Do not you find that same split in kegs that are pitched by hand?

A. Not so much as with pitching by machine.

58 X Q. Did you compare to see whether it was as much?

A. I have found some out, of course, by pitching by hand,
547 too, but not so much as pitching by machine.

59 X Q. How many years has it been since you pitched kegs by hand?

A. I pitched kegs by hand since 1873.

60 X Q. Is 1873 the last time you pitched them by hand?

A. Yes, sir.

61 X Q. That is ten years ago.

A. I pitched in 1877 the whole kegs through in the Jackson Brewery—pitched by hand.

62 X Q. Is not it a fact that in kegs that are pitched by hand this same splitting takes place?

A. Maybe it will.

63 X Q. Have not you seen it yourself?

A. Yes, sir.

64 X Q. How much do iron bung bushes cost?

A. Well, it differs; we pay, I believe, eight cents now; we have paid nine.

65 X Q. Just for the bushes alone?

A. Yes, sir.

66 X Q. What does it cost per keg to get one put into a keg?

A. We buy the kegs without the bushes and buy the bushes and put them in ourselves.

67 X Q. If you buy them with the bushes in how much more do they cost?

A. I cannot tell; I never bought any with the bushes in; no cooper puts the bushes in, that I know of.

68 X Q. Would you use the bushes if you were pitching by hand?

A. It is not necessary to have them in pitching by hand.

69 X Q. Do you mean to say that you use them simply because you pitch the kegs by machine?

A. Yes, sir.

70 X Q. And that the machine makes it necessary to use these bushes?

A. The machine makes it necessary to have them in.

71 X Q. What split this stave that I show you (showing witness "Defendants' Exhibit Bung-Hole Stave"); was not it split
548 because the bung was driven in too tightly?

A. Yes, sir; maybe that is the cause of it.

72 X Q. Are not the men sometimes careless in driving in the bungs, so that they will split the staves?

A. Sometimes, of course; you find this here in the keg when the bushes are in the same way.

73 X Q. Do you find them split?

A. Split.

74 X Q. When the bushes are in?

A. Yes, sir.

75 X Q. That is, split after the bushes are put in?

A. After the bushes were put in and after the kegs were used half a year or a year you find the same split.

76 X Q. About how many kegs did Moerlein have in 1871?

A. In 1871 he had no trade for shipping; he had only the city trade, and, so much as I know, he had about fifteen hundred to two thousand; maybe twenty-five hundred kegs; from fifteen hundred to twenty-five hundred kegs was all that he had.

By the MASTER:

77 X Q. He had no shipping trade; it was all in the city.
A. Yes, sir; I believe he had only about a thousand or fifteen hundred kegs; maybe two thousand.

By Mr. BANNING:

78 X Q. Did you pitch them on an average of twice that year, do you think?
A. I believe so.

Redirect examination by Mr. PARKINSON:

79 R. D. Q. What effect does the pipe of the machine have upon the bung-hole when no iron bush is used?
A. Sometimes the men are careless and set the tables so that one keg is not as high as the other one; maybe the cooper that bored this hole did not put it in the middle; one keg is not as high
549 as the other, and we — it in the middle; one keg is not as high as the other, and we have to put it on the table, and maybe he will not care about it and put the keg on the pipe, and then, of course, the hole burns out on account of this having to be pushed in.

By Mr. BANNING:

80 Q. You mean the table the keg stands on?
A. Yes, sir.
81 Q. That ought always to be adjusted so that the bung-hole will be on a level with the pipe from the furnace?
A. Yes, sir.

By the MASTER:

82 Q. And not have the pipe touch the wood at any place?
A. That is it.

By Mr. BANNING:

83 Q. How large is the pipe?
A. I think it is an inch pipe; yes, sir; it is an inch pipe.

By Mr. PARKINSON:

84 R. D. Q. What effect does the pipe have upon the shape of the bung-hole when it does come in contact with the wood?
A. It makes it oval, and, of course, when you put the bung in then it leaks.
85 R. D. Q. State whether the shipping kegs come back more frequently now than they did three or four years ago.
A. O, no; it depends on the customer; maybe you have got a customer a hundred miles away, or maybe you have got one seven or eight hundred miles away.
86 R. D. Q. When the belly gets small what becomes of the kegs?
A. Recently we work them over and make eighths out of them. From the half barrels we make kegs and from the kegs, eighths.

By Mr. BANNING:

87 Q. What kind of wood are the bungs made of—soft wood or not?

A. Poplar wood—soft. Of course, the shipping bung is not
550 from poplar wood. The Kirby bung is a compressed bung; it is very hard. Philip Geier has what we call a half bung.

88 Q. The ordinary bung is of soft wood, is it not?

A. Yes, sir; from poplar.

By the MASTER:

89 Q. Are you using the machine for pitching your kegs at the Moerlein Brewery now?

A. Yes, sir.

90 Q. Is the machine in general use among the breweries in this city, or do all of them do it by hand?

A. So far as I know, most of them have a machine; I believe Lackman has got no machine; I believe he is the only one.

551 CHRISTOPH LIEBEL, being called for defendants and duly sworn, deposes and says:

(By agreement of counsel Kato Topp is sworn as interpreter.)

By Mr. PARKINSON:

1 Q. State your name, age, residence, and occupation.

A. Christoph Liebel; forty years of age; reside at 510 John street; I am foreman of the Windisch-Muhlhauser Brewing Company.

2 Q. How long have you been foreman?

A. Ten years.

3 Q. Are you familiar with the processes of pitching by hand and by machine?

A. Yes, sir; I am.

4 Q. In which way are the best results obtained?

A. The hand work is better than the work done through steam with a machine.

5 Q. In what respects is it better?

A. It lasts longer; that is the only thing.

6 Q. In which way do the kegs last longest?

A. They last longer by hand, because the pitch comes on better by machine; it comes on thicker.

7 Q. In which way is the most pitch required?

A. There is little difference in that. I know no difference in that respect.

8 Q. Can pitching by hand be carried on in a shed, under roof?

A. Yes, sir; If it snows or rains we have to pitch under roof, too.

9 Q. In which way are accidents most likely to happen?

A. With the machine.

10 Q. Have you known of any accidents in pitching by
552 machine?

A. There was one here this morning who gave his testimony.

By the MASTER:

11 Q. Did you see that accident that Mr. Schwarz spoke of?
A. Yes, sir; I did.
12 Q. What caused the explosion?
A. That is hard to say. There was probably gas in the stove; probably there was gas generated in the stove.
13 Q. Was there any water in the cask?
A. No; they must be all dried out.
14 Q. That was the first cask pitched that day, was not it?
A. Yes, sir.

By Mr. PARKINSON:

15 Q. Have you ever known of other accidents of the kind or known of the casks being blown away from the machine?
A. There was no keg blown away, but a cask. I was present when it was blown away at least six feet, and that was not the first or second barrel, but it was, probably, the tenth cask.

By the MASTER:

16 Q. Was it the tenth cask they pitched that morning?
A. I mean that I saw as high as ten barrels blown away.
17 Q. Not at any one time, but different times?
A. Yes, sir; different times—I mean a great big thing; I do not mean this was on the same day; I mean that was on different occasions when I saw that.

By Mr. PARKINSON:

18 Q. How many kegs could seven men pitch by hand per hour?
A. A little more than a hundred kegs. They do not need an hour; they can do it in fifty minutes.
553 19 Q. Have you made any experiments lately or seen any experiments made in regard to pitching by hand?
A. Yes, sir; I did.
20 Q. How many men were employed, how many kegs were pitched, and how much time did it take?
A. There were seven men, took twenty-five minutes, and there were nearly fifty kegs.
21 Q. How many kegs was it?
A. Fifty.
22 Q. State whether or not the same men who formerly pitched by hand are generally employed to pitch by machine.
A. Yes, sir; just as it is needed.
23 Q. How long do the large casks generally last?
A. That differs. They generally last, summer and winter, one year.
24 Q. How long does a large cask generally last before it is worn out?
A. That is hard to say; that depends entirely upon the manner in which they are handled. If it comes out of the cellar into the air

it generally spoils. On an average they last twelve years; they always have to be repaired, though, again.

25 Q. Do you mean that when the casks are brought out into the air they are injured by handling or otherwise or that they are ruined?

A. They are simply injured.

26 Q. How much pitch is required for pitching a large cask after the cask has been once pitched?

A. The second time there is usually two gallons put into it. The opinion as to the amount put into it differs. We roll the cask over two pieces of scantling and then let the pitch run out into a big tub. The thinner the pitch is the longer the keg will last. Sometimes the pitch will form in lumps and then it will crack off and spoil the cask.

554 27 Q. In which way, pitching by machine or pitching by hand, is the pitch most likely to form in lumps?

A. That is caused by the carelessness of the men engaged in it. It can happen in both instances. Of course when pitching by hand one can see better, but it occurs in hand work as well as in machine work. We go at it with a machine; when the cask cracks inside that is a sign that it is thoroughly heated, and then it can be pitched at once, then it is ready to be pitched. In pitching by hand one can be more careful than with a machine; more care can be used, for if it is pitched with a machine it is machine work.

Cross-examination by Mr. BANNING:

28 X Q. How long have you been with Windisch, Muhlhauser and Company?

A. Fourteen years.

29 X Q. When did they commence to use a machine?

Mr. PARKINSON: If any of these matters are gone into which are in the nature of new matter we shall claim the right of cross-examining the witnesses as to those matters.

A. I said before that I had been foreman there for ten years, but I cannot remember the date nor the month nor the year in which they first started to use a machine.

30 X Q. After they got the machine did they pitch all of their kegs on it?

A. As long as there was nothing broken on the machine. When there was something broken on it then the kegs had to be pitched by hand.

31 X Q. How many times a year, on an average, did Windisch, Muhlhauser & Company pitch their kegs on the machine?

555 A. That is hard to say. There may sometimes kegs come back which were all off one time, and when brought back are pitched. When the kegs are returned from shipping they are looked at, and if found necessary to pitch they are pitched; if not found necessary to pitch they are set aside and used over again. It may be that the shipping kegs can be pitched every time that they come back, while the city kegs are only pitched about twice a year.

32 X Q. Are you an experienced cooper?

A. No, sir; I am not. I can put the hoops on the kegs and can open them and shut them. Any one can do that.

33 X Q. What caused this head to crack and split (showing witness "Defendants' Exhibit Head No. 2")?

A. That is hard to say. It may be that somebody threw this down on the ground and it happened that way. It could also have happened from being heated too quickly. Then it will crack and separate.

34 X Q. May it not also happen when the keg is tightly hooped up and the head becomes wet, so that it swells?

A. I have said before it comes from being heated too quickly. That is the reason it happens, because it is too wet, and being heated too suddenly causes the wood to spring.

34 X Q. repeated.

A. It may happen through that also. It may happen from falling down, and it may happen from other causes.

35 X Q. Have you not seen heads split like this one in kegs that were pitched by hand?

A. It does not happen so often, because in hand pitching there is not so much occasion for it, but in putting the pipe in and having a great heat come into it, then it happens much easier.

556 36 X Q. Have you not also seen heads cracked like this in new kegs that had never been used?

A. I have not found any yet.

37 X Q. If, when this keg was empty, a weight should be placed on this head would not that also cause it to crack in that way?

A. Not easily, if it was tied well.

38 X Q. What do you mean by "tied?"

A. There would have to be a great pressure on it. I mean by "tied" that this was fastened tight together.

39 X Q. I mean when the keg was empty.

A. Yes, sir; there may be such a weight upon it as to cause it to break, but that does not happen easily.

40 X Q. What caused this stave to split (showing witness "Defendants' Exhibit Bung Hole Stave")?

A. They drove the bung in here too tight.

41 X Q. Are not the men who drive in the bungs often careless and drive it in too far and thus split the bung stave?

A. No; they must hit it so hard that it sets tight, and the wood being soft it cannot split easily.

42 X Q. What wood soft?

A. The bungs, I mean. That is poplar wood, soft wood.

43 X Q. Still, do not the men often drive the bung in further than it ought to be driven in, and thus split the stave?

A. Yes, sir; that may happen, certainly.

44 X Q. In this cask that burst and hurt Mr. Schwarz might not there have been some water?

A. There is a great deal of caution used, because a candle is taken and the cask is lighted inside thoroughly to see whether there
557 is not perhaps a drop of water in it, because in winter some-

times, when there is snow resting upon it, it sometimes happens that a little water gets in it, and if we see that there is a drop of water or snow in it it is first thoroughly cleaned out and dried as far as we are able and as far as we can see.

45 X Q. Do you know that the cask which exploded that morning had been thus carefully examined?

A. I was not present; I did not stand by it, but that is the rule; every time the keg must be lighted with a candle and it must be ascertained whether it is all right or not.

46 X Q. You spoke about the explosion having occurred perhaps from gas driven into it by the furnace. Do you not know that the furnace cannot and does not produce any gas that would thus explode?

A. They can always be generated; for instance, if you take one cask away and put another one there, while you are taking the first cask away gas may be generated in the second cask.

47 X Q. What I want to know is this: Do you not know that there is no gas that does or can come out of the furnace that is produced in the furnace that can thus explode?

A. No; I cannot say that; coke has gas, and there are always gases being generated; if you let it stand for five or six minutes there is sure to have been gas generated in the meantime.

48 X Q. Gas generated in what?

A. In the stove—in the furnace.

49 X Q. Do not you know, and do not all the brewers know, that an explosion cannot take place unless there is water or too
558 much moisture in the keg or cask that is turned into steam?

A. I do not know that; it might be the case; if there is water in it then it explodes; that is a sure thing.

50 X Q. Were not all these seven men that pitched the kegs day before yesterday experienced men that had been specially trained to pitch kegs and casks in former years by hand?

A. Every beer brewer must be that; a beer brewer does not simply have to be a man who can head up a barrel or put hoops on a barrel, but he must know all about the business, so that I can send him anywhere or put him at any job, and if he does not understand that, why I will send him away.

50 X Q. repeated.

—. Yes, sir; they were good men.

51 X Q. In pitching kegs by the machine do you pour in the pitch from the pitch kettle before you apply the hot blaze or afterwards?

A. Before the keg is heated.

Redirect examination by MR. PARKINSON:

52 R. D. Q. Have you any means by which you can tell how often a keg is pitched?

A. The reason I know that city kegs are pitched twice a year is because we put a mark on it in the spring and in the fall—twice a year.

53 R. D. Q. How many of the men who were engaged in pitching by hand day before yesterday at the Lion Brewery were coopers?

A. Six, as far as I know; I have but two who are real coopers; the others are not regular coopers; they simply head up the barrels, tighten the hoops, but they cannot make casks or barrels.

559 54 R. D. Q. How many of the men were from your brewery day before yesterday?

A. Five.

55 R. D. Q. How many of those were real coopers?

A. Four out of the five.

56 R. D. Q. Do you mean that they are regular coopers or simply put on heads?

A. Two of them were real coopers; the rest of them simply head up barrels and put on the hoops and are not regular coopers.

57 R. D. Q. Are they real regular brewers?

A. Two of them are coopers and the others are brewers.

By the MASTER:

58 Q. By which method of pitching is the greatest heat attained inside of the keg?

A. According to my opinion, I believe pitching by hand is a great deal hotter, because it burns inside, while by pitching with machinery there is simply the heated air goes into it.

59 Q. Have you ever tried with a thermometer or any other means the degree of heat within the keg by either method?

A. No; I never tried that.

60 Q. By which method is the pitch made the thinnest, the most liquid?

A. By working it by hand.

61 Q. And by which method is the thinnest coat of pitch placed on the inside of the keg?

A. By the hand work.

62 Q. You are pitching by machine at the Windisch-Muhlhauser brewery, are you not?

A. Yes, sir; we have pitched with it.

63 Q. Are you still pitching with it?

A. Yes, sir; we are now using the machine.

64 Q. In pitching by machine is there any other opening
560 than the bung-hole, through which the pipe is inserted?

A. No; the other is plugged up; I mean the hole in the heading is plugged up.

65 Q. Then, both the hole in the head of the keg and the small hole in the bung-stave are plugged up in machine pitching?

A. Yes, sir.

66 Q. The thinner coating of pitch there is the less liability to break, is there not?

A. The thinner it is the better it is; if it is thick it will break, but if it is thin it cannot split off.

67 Q. Why is it that you continue to use the machine in pitching if the best results are obtained by hand pitching?

A. The only reason that I know is that the opening and shutting cannot be done so well by hand as with the machine, and then maybe we can do more with the machine than by hand.

(67 Q. repeated.)

—. The difference is very little. Then the matter is this: If my bosses tell me to pitch with the hand I pitch with the hand.

58 Q. Then you have nothing to do with determining what method is pursued, but simply obey the instructions of the proprietor of the brewery; is that correct?

A. No, sir; he has the machine there, but if he tells me that he does not want the machine then I do not care, and I do it by hand. As far as I am concerned, I prefer pitching by hand to pitching with the machine, because it does not require so much watching, and one is not exposed to so much danger.

69 Q. In your answer to the question as to why you continue to use the machine you speak of opening and shutting. What
561 do you mean by that?

A. I mean that by hand work we had to take out the heads in pitching and put them back again.

70 Q. And you did not have to do that with the machine, and therefore it took longer by hand?

A. When we do the pitching with the machine we do not have to take out the heads and they staid in, and therefore it does not take so long.

(The further taking of testimony in this case is adjourned until to-morrow morning at ten o'clock.)

562 OFFICE OF PARKINSON & PARKINSON,
CINCINNATI, *July 28th*, '83.

HENRY SCHARF, being duly sworn, testified as follows:

Examined by Mr. PARKINSON, through the aid of interpreter:

1 Q. You may state your name, age, residence, and occupation.

A. My name is Henry Scharf; I am thirty-eight years old; I reside at No. 12 Mary street, in Cincinnati; I am a cooper by trade.

2 Q. Where are you employed and how long have you worked there?

A. I work for Windisch & Muhlhauser, brewers, and have worked there two years.

— Q. Are you familiar with the process of pitching by hand and by machine?

A. Yes, sir; I am.

— Q. By which method are the best results obtained?

A. There are about the same, the only difference being that in case where the casks or kegs are pitched by hand they are much better done and are much nicer.

5 —. How many kegs per hour can seven men pitch by hand?

A. We have tried it lately, and seven men pitched fifty-one kegs in twenty-five minutes.

6 Q. How long before that trial had it been since you had pitched by hand?

A. It is nine years now; I am in the country now ten years; the first year I pitched kegs at Kaufman's and Houck's.

563 7 Q. By which method is the most injury to the kegs caused?

A. With the machine. In pitching with the machine the kegs are heated only internally and not externally, causing the hoops to get loose when they cool off, while in pitching by hand the whole keg is heated comparatively, and the hoops don't get loose and the wood does not shrink.

8 Q. What particular branch of the work did you do at the brewery?

A. I did pitching and repairing of the kegs and what belongs to the cooperage department of the brewery.

9 Q. Can you state about how long kegs last, on an average, when pitched by a machine?

A. I can say that how long they will last depends upon how they are used; sometimes a keg is sent away, and probably will be returned only inside of three years.

10 —. Can one pitch by hand under a roof?

A. Yes, sir.

11 Q. About how much pitch is required for pitching a large cask by hand after it has been once pitched?

A. We may consider that a thousand-gallon cask that has already been pitched once it will require a gallon and a half to pitch it a second time; when a cask is pitched it is rolled and the surplus pitch allowed to run out.

12 Q. By which method is the pitch more evenly distributed?

A. In pitching with the hand the coating of pitch is much thinner than by pitching with the machine; sometimes, when pitching by a machine, the coating on the inside of the keg will be one-eighth or a quarter of an inch thick with pitch, which will not happen when pitching by hand.

13 Q. In what parts of the keg is the pitch generally the thickest when pitching by a machine?

564 A. The pitch is the thickest in the back head of the keg, because the keg is allowed to stand sometimes before it is turned upside down, in order to place the pitch in equal proportions through the whole keg.

14 Q. How is — with casks?

A. In large casks it is just the contrary to what I have just said, because the large cask is laid down and the pipe is then injected into the hole, and when the hot-air current goes in it strikes the rear head; this causes the wood to burn to some extent, while the front head does not get the same degree of heat; consequently when the keg is turned over to distribute the pitch the front head gets more pitch than the back head, because the front head is not heated to such an extent as the rear head.

15 Q. Consequently the pitch cools more rapidly on the front head?

A. Yes; the front head gets cold sooner than the rear head.

16 Q. Examine this head now shown you ("Defendants' Exhibit Head No. 2") and tell me, if you can, what caused that head to split.

A. That occurs frequently in pitching with a machine; they frequently crack in that way. Out of one hundred kegs from fifty to sixty and sometimes more than that crack in this manner. It often occurs also in pitching by hand that the wood splits and cracks off. If the wood is hard it will crack the easiest.

17 Q. In which way does it occur most frequently?

A. It occurs most frequently through pitching with a machine, because in pitching with a machine the inside of the head gets hot while the outside remains cold, thus causing the wood to con-
565 tract and expand suddenly, while in pitching by hand the whole head is equally heated at the inside; at the rim of the head it gets hot, while in pitching with a machine on the outside it remains cold.

18 Q. What effect does pitching by a machine have upon the bung-hole and head?

A. In pitching with a machine we are required to put an iron bung-bush in the bung-hole in order that when the pipe is injected through the hole that it does not burn into the side of the bung-hole, while in pitching by hand that is not necessary, because the bung-hole is closed up, and it will not burn the way it would with a machine if there were no iron bushing.

Cross-examined by Mr. BANNING:

19 X Q. How long since you learned the cooper trade?

A. When I was fourteen years old I became engaged in the cooper trade.

20 X Q. Where did you work before working at Windish, Muhlhauser & Co.'s?

A. I worked before that time for Kaufmann and Houck seven years.

21 X Q. When did you work at Kaufmann's?

A. Ten years ago; when I arrived in this country I began working for Houck. I worked there about a half a year, but not longer than that, I think, and then I went to Kaufmann's. I don't know exactly how long there, but about seven years.

22 X Q. Did you pitch kegs at Houck's or Kaufmann's?
566 A. Yes, sir.

21 X Q. How did you pitch them at Houck's, and how at Kaufman's?

A. At Houck's we pitched them with hand; at Kaufman's we had a machine; except in repairing the kegs we pitched by hand and used the other details necessary for that purpose.

22 X Q. You mean when a keg was broken or any other repairs made you pitched it by hand?

A. Yes, sir; I mean in that case it was pitched with the hand.

23 X Q. How often did you pitch the kegs by the machine at Kaufman's while you worked for him a year?

Mr. PARKINSON: I object to the question; you are now referring to matter not in the direct examination.

A. I can't say how often a year; it was four or five times a week in the summer, and not so often in the winter.

24 X Q. I mean how often on the average did you pitch the kegs in a year?

A. I can't tell that exactly either; there — thousands of kegs going away, and sometimes only returned in the course of two or three years; some of them are injured and have to be pitched over again inside of the year, and sometimes when not injured they have to be pitched over again before they are used; I can't tell exactly how much the average would be.

25 X Q. How often, on the average, were the city kegs pitched a year—once or twice?

Mr. PARKINSON: I make the same objection that I did to question No. 23

567 A. They are usually pitched twice a year—once in the spring and once in the fall.

26 X Q. How long since you pitched kegs by hand?

A. That only occurred during the last week; I think upon Thursday.

27 X Q. I mean how long before that time were you accustomed to pitch by hand?

A. That is about eight years ago; in Kaufman's we pitched by hand.

28 X Q. Is there as much demand for coopers now as there used to be when you did the pitching altogether by hand?

A. A brewer must possess the same knowledge as a cooper—that is, about the same; they are all required to have a knowledge of coopering.

29 X Q. Is that required now as much as it used to be when all the pitching was done by hand?

A. In former times the coopers were more used.

30 X Q. What kind of men were those that pitched the kegs Thursday morning; were they experienced coopers or ordinary hands?

A. There were three coopers among them and the rest were brewers.

31 X Q. Look at this stave and these two heads (defendant's exhibits) and state whether the pitch on them — as it generally is when the pitching is done by a machine.

A. This head (No. 1) has been pitched by a machine; that any one can see; and that has (No. 2) been pitched by a machine also, because in pitching by hand these lumps that have formed here do not occur in pitching by hand; according to my opinion, this stave

568 has also been pitched by a machine, because the pitch is very thick at the ends and thicker than it would be if pitched by hand; when you pitch by hand the coating is a great deal thinner.

32 X Q. Do kegs generally have pitch on them as thick as on these heads and this stave, when pitched by a machine?

A. That depends upon the fact of how old the keg is; the older the keg gets the thicker the coat of pitch that will adhere to it. I can say this, by looking at these two heads, No. 2 having a thin coat of pitch is not so old as No. 1, which has a thick coating.

33 X Q. Is the thickness of the pitch on this stave and these heads a fair average thickness of the pitch when the kegs are pitched by machine?

A. That depends entirely upon the age of the keg; with a new keg, after it has been pitched once or twice by the machine, the pitch will not be quite as thick as upon this stave here; when the keg gets old the pitch will form in thicker coats, and it sometimes happens also when pitching an old keg that pitch bubbles form in the pitch so that you can put your hand under the pitch.

34 X Q. Did you ever see this stave or these heads before?

A. No, sir.

Mr. HARPER:

35 X Q. Take one hundred kegs of just the same age as these heads and this stave appear to be, would the coating of pitch be thicker or thinner than it appears upon these?

A. On the rear head of old kegs the pitch is always the thickest.

Mr. HARPER:

35 —. Take one hundred old kegs of the same age that this
569 stave appears to be, would the coating of pitch upon the sides of the keg be thicker or thinner than that on this stave?

A. There is a difference in that; it sometimes depends upon the fact whether the keg is moist inside. In that case the moisture causes this roughness and holes, as shown on this stave; that is caused by moisture. Sometimes it happens, too, when pitching by machine, that the keg is dry in one place and moist in another, which would be another cause of this difference in the thickness of the coating. Sometimes it is caused by the negligence of the men who do the pitching in not having the current of hot air thoroughly heat the pitch, or in not having the heat evenly distributed over the staves of the keg.

Mr. HARPER:

37 —. Does not the thickness or thinness of the coating of pitch depend upon how hot the interior of the cask is made, consequently how perfectly fluid the pitch becomes?

A. That depends upon the heat; if it is heated too much bubbles will form in the coating of pitch. In pitching you can ascertain whether the keg is ready to be pitched by looking at the color of the smoke issuing therefrom. If the smoke is blue or nearly white and the keg begins to crack, it is seen that it is just ready to be pitched, but if it is overheated, it will cause bubbles to form in the coating of the pitch and these irregularities as they appear upon this stave here.

Mr. HARPER:

38 —. Do you mean when the smoke issues, as you speak of, it is ready to be pitched or ready to be taken off the machine?

A. Yes, that is what I mean; whenever smoke issues, as I have described, then it is ready to be taken off the machine.

570 Mr. HARPER:

39 X Q. Do you put the pitch in the keg before you put it upon the machine or attach it to the machine or after you attach it?

A. That can be done according to one's choice; we put it in before we put it upon the machine, and others heat it first and then put the pitch in. It can be done according to one's choice.

40 X Q. No matter how old the keg may be if it is heated thoroughly will not all the pitch that is sticking to the wood melt?

A. Yes, sir; that occurs every time when it is heated thoroughly; the pitch runs out and the keg is jostled about—that is, rolled; that has to be done.

41 X Q. Whether the old pitch on the wood on the inside of the keg is entirely melted off or not depends upon how hot the keg is made, does it not?

A. Yes, sir; the old pitch is loosened every time and then the new pitch is added to it; that is the rule.

42 X Q. If you took this stave and subjected it to enough heat will not the old pitch you see upon it be all melted off?

A. Yes, sir; that all runs off.

43 X Q. If you took an old keg and heated it until all the old pitch runs off, as you have just stated it would, would the pitch be any thicker when you repitched that keg than it would be if it were a new keg?

A. In an old keg when it is repitched the pitch will always stick to it thicker than it will in a new keg, because the old keg (the wood in it) has all been burned to some extent by previous pitch-
571 ing; consequently the pitch sticks to it more than in a new keg.

44 X Q. If you took this stave and melted the pitch all off, as you have said would be the case if heat, with heat enough, and then repitched that same stave, would the pitch be any thicker than it was the first time that stave was pitched?

A. The pitch on an old keg will never run off as well as on a new keg, because the wood has been burned, and therefore the coating of pitch will stick to the old keg more than it will to a new keg.

45 X Q. Confine yourself to this stave that is before you and then answer my other question.

A. No one can ever succeed in doing that. If the pitch on this stave is taken off entirely it will burn the stave, char the wood; with a machine that cannot be done.

46 X Q. In saying that it will burn and char the wood, do you mean by hand pitching or machine?

A. With the machine the wood will burn more.

47 X Q. Look at this stave and state how old you think, as a cooper, the keg was from which it was taken.

A. It may be four, five, or six years old; it is an old stave; that one can see.

48 X Q. Look at this head No. 1 (defendant's exhibit) and state how old you would think, as a cooper, the keg was from which it was taken.

A. That is an old head; that one can see; I can't state exactly how old; it may be as old as the stave I have spoken of; it has been entirely compressed by machine pitching.

49 X Q. Look at this head No. 2 (defendant's exhibit) and state whether it — as old as head No. 1, in your opinion.

572 A. This head (No. 2) is comparatively a new head; that one can see by the thickness of the pitch; that has probably only been pitched two or three times; you can also see that it is new head, because it has not been compressed.

50 X Q. Which one of these two heads is cracked and split the most?

A. This head (No. 2) is only split upon one side, while this head (No. 1) is split upon both sides; that is the only difference.

51 X Q. Is not the crack in head No. 2 much the largest and widest?

A. Yes, sir; the crack in head No. 2 has penetrated deeper than the crack on No. 1; one can see that.

52 X Q. Have you not seen the heads of new kegs cracked and split like these heads?

A. No, sir; that does not occur with a new keg.

53 X Q. If the keg were tightly hooped and the head became wet would it not swell, causing the head to bulge and split like these heads?

A. That comes from the heat in pitching with the machine; the keg is pressed very tight, and when the heat strikes it it expands and from that causes the heads to crack.

54 X Q. Does the heat make the wood expand?

A. The heat makes the wood split.

55 X Q. Will not the heat penetrate through the wood quicker where it is thin, at the ends, than through the middle, where it is thicker?

A. Yes; of course, the heat will go through the sides of the
573 head easier than through the middle, because the head is thinner on the sides than it is in the middle. In the middle there is more body to the wood.

56 X Q. Might not the heads of a keg be split, as you say they are, by throwing the keg on the ground from the wagon or knocking it about?

—. On the heads that can never occur, because the kegs are not thrown upon their heads; that can only occur to the staves; at the top of the stave, where the top part may be broken.

57 X Q. What split this stave?

A. That occurred from knocking in the bung.

58 X Q. Do not the men who drive in the bungs often strike them too hard, driving them in too far, thus splitting the bung-stave through the hole?

A. Yes; that occurs sometimes; sometimes they are thrown from the wagon and fall upon the bung and thus crack the bung-stave and split it in that way, too. That has nothing to do with the pitching; they will burst, too, if they have one of these iron bung-bushes in the bung-hole.

59 X Q. How were kegs and casks usually pitched by hand, out in the open air or in a building, when you used to pitch altogether by hand?

A. That can be done as one pleases; the pitching can be done under a roof or in the free air.

60 X Q. What do you mean by under a roof?

A. Under a shed.

61 X Q. Open at the sides?

A. Yes; it is open at the sides; it must be everywhere.

62 X Q. To allow the smoke to pass out?

A. Yes, sir.

574 Redirect examination:

63 R. X Q. Is that the same in regard to the shed being open at the ends, whether pitching by machine or hand?

A. That can be done as one pleases; in Germany I pitched by hand under a shed and in the free air; I could pitch a keg in the room here; it makes no difference.

64 R. X Q. How was it done actually—under a shed or in the open air?

A. It was done mostly under a shed, but that does not make much difference, because if it rains it has to be done under a shed, anyway; but it is really better if it is done in the open air.

65 R. X Q. State whether bung-staves are not more frequently split when a machine is used than when the pitching is done by hand (showing witness stave).

—. That does not come from pitching; that comes from knocking the bung in; pitching has nothing to do with that.

66 R. X Q. What is the reason for using the iron bush?

A. The reason is that the wood around the hole gets burned when the iron pipe is injected into the hole to heat the keg; in former times we did not need to have this iron bung-bush when pitching by hand, but now we have to have them; the iron bung-bush is to protect the wood around the hole from being burned.

Mr. HARPER:

67 —. Are these iron bung-bushes worn out by use in one keg, or after the keg is used and worn out are they in a condition to be put into another keg; or, in other words, how long do they last?

575 A. No, sir; they can only be used once; they can never be used twice.

JACOB FRECH, Jr., recalled, testified as follows:

Examined by Mr. BANNING:

1 Q. Are those two heads, Nos. 1 and 2 (defendants' exhibit) out of the same keg?

A. No, sir; two different kegs.

2 Q. Are either one of these heads out of the keg from which this bung-stave was taken?

A. No, sir; that stave is from a different keg.

3 Q. How did you get these heads and stave?

A. I took them out of a keg.

4 Q. Why did you not take all the pieces from one keg?

A. Well, that keg had a broken head and no broken stave, and another broken staves and no broken heads; consequently I did not take the heads and stave from one keg.

5 Q. From how old a keg would you say this stave was taken?

A. That I could not say; it is impossible.

6 Q. Well, state, as near as you can, what you think.

A. Well, that keg would be three or four years old.

7 Q. Do you think that it would be older than three or four years?

A. No, sir.

8 Q. Is the thickness of the pitch on this stave a fair average thickness of pitch on the kegs that are pitched by a machine?

576 A. It is thinner; it is not a fair average.

9 Q. It is not a fair average because too thin?

A. Yes, sir; I examined several kegs of this kind, and the pitch was blue and in some cases it was a half inch thick, especially around the head.

10 Q. If the keg was thoroughly heated—sufficient to thoroughly melt the pitch—would not the pitch on this stave and these heads have melted off so that it need not have been so thick?

A. Why, yes; if you put enough fire in it; you can't put enough by machine.

11 Q. Whether it melts off thoroughly or not depends upon the amount of heat you put in the keg?

A. Of course, it depends upon the heat.

12 Q. If a keg that has been pitched a number of times is thoroughly heated so as to thoroughly melt the pitch off the wood would it not repitch with as thin a coat of pitch as a new keg?

A. Yes, sir.

13 Q. The thickness of the pitch on the inside of the keg does not depend upon the age of the keg, but depends upon the degree of heat to which the pitch is subjected?

A. To a very great extent.

14 Q. Is there any difference in the age of these two heads, No. 1 and No. 2?

A. There is.

15 Q. Which is the oldest?

A. That one in your hand.

16 Q. No. 1?

A. Yes, sir. That head (No. 2) has been put in since; that head has been put in after the head of the keg was broken.

577 17 Q. How much older is head No. 1 than head No. 2, in your opinion?

A. That is something that I could not answer.

18 Q. Well, give your best opinion.

A. Well, that is pretty hard to tell. This head, No. 1, might have been in for some time, and this head, No. 2, might have been in only two or three weeks. It is something that I don't think any cooper could tell.

19 Q. Did you take these heads and the stave out of kegs or out of a pile?

A. I took them out of a pile of kegs that was in the repair shop.

20 Q. You picked out specially these particular ones which you found broken?

A. I didn't have to pick any; we have several hundreds sometimes standing around broken.

Mr. HARPER:

22 —. Then, in your experience, you do not get the interior as hot in pitching by machine as you do in pitching by hand?

A. No, sir; we don't.

Mr. PARKINSON:

23 —. Have you any means of telling how hot a keg is when you are pitching by machine?

A. When we pitch a keg by hand the whole interior of the keg is in a blaze and the whole of it is heated up. When the hot air is put in by a machine it strikes on the side and only heats up a space of three or four inches around in one spot.

Mr. PARKINSON:

24 Q. Do you know which is the hottest—the blast from the machine or when the whole keg is set on fire by hand pitching?

A. I think the blaze when pitching by hand, as the whole keg is afire.

Mr. PARKINSON:

578 25 Q. Do you know whether it is possible to blast from a furnace which is hotter than the flame itself?

A. I don't know.

Mr. PARKINSON:

26 —. In which way is the heat more evenly distributed?

A. By the hand work.

Mr. BANNING:

27 Q. Do you know how hot the wood and pitch have to be before they will blaze?

A. No, sir; it takes a red-hot iron to set the pitch on fire.

Mr. BANNING:

28 —. That is, you use a red-hot iron to set the pitch on fire?

A. Yes, sir.

Mr. BANNING:

29 —. You can state whether it will blaze with less than a red-hot iron.

A. No, sir; you put some pitch on the iron and put — in the fire, and when it gets ablaze it will set pitch afire in the keg.

Adjourned to meet at the U. S. clerk's office, in Covington, Ky., at this —, 2 o'clock p. m.

579 UNITED STATES CLERK'S OFFICE,
COVINGTON, KY., *July 28th*, 1883.

JOHN BRENNER —, who, being duly sworn, testified as follows:

Examined by Mr. PARKINSON:

1 Q. State your name, age, residence, and occupation.

A. John Brenner; age, fifty-one years next October; residence, 601 Scott street, Covington, Kentucky; business, brewer, and a member of the firm of Brenner & Sciler, brewers, in Covington, Ky.

2 Q. Were you educated as a brewer; if so, where did you get your education?

A. Yes, sir; in the old country; in Germany.

3 Q. How long have you been engaged in brewing?

—. I can't say; I was born and brought up in a brewery; my father was a brewer, and I never worked at anything else than brewing.

4 Q. How long have you been in business for yourself as a brewer?

A. I commenced in business myself in 1867, in Cincinnati, in the firm of Foss, Schneider & Brenner; we made a contract for ten years; I was to be the foreman and superintendent for the ten years; at the end of the ten years I sold out; I then, for three years, done nothing; then I came over here and bought into the brewery I am now at, at a master commissioner's sale; that was in 1880, and we have run the business in our name since last May.

5 Q. Are you familiar with the methods of pitching by hand and machine?

A. Well, I did work by hand—not so much by machine; at the time I was foreman of Foss, Schneider & Brenner's we did not
580 have many machines for pitching; we had some, but not every brewer had one; afterwards they got to be more plenty; you want to know about pitching with warm air or hand?

6 Q. Yes; by hand or machine.

A. Well, I worked more by hand.

7 Q. How are the kegs pitched in your brewery at the present time—by hand or machine?

A. We pitched them all by hand; we only had a machine for one year from that Cleveland man; we bought it from Burger, in Cin-

cinnati, who sold them; when I was connected with Foss & Schneider Mr. Herman Reuter, of Hamilton, came to me—I guess it was in the beginning of 1870, or may be in 1869, when I was working there—and told me about it.

8 Q. Did you get a machine from him?

A. Yes, sir; from Mr. Reuter; he first explained it to me, and said, what do you think of it, at the time the machine was complete, and we talked the matter over, and he fixed one and I tried it and it was good; he fixed up a hot-air boiler, and we found it was good for a big business—quicker to work a big business; for a small business I would take the hand pitching for that; the machine works quicker than —, anyway; I have found out since I got a machine that it is faster than by hand power.

9 Q. By which method is the pitch the more evenly distributed?

A. By hand; it is a better job than by machine.

10 Q. By which method is the keg the most thoroughly purified?

581 A. By hand; if we take the head out and set the whole keg on fire, if the keg is moist, the moisture comes out quicker than through the small bung-hole in machine pitching, so that the pitch gets evener and nicer than when done by steam power.

11 Q. About how long does a keg last before it is worn out when pitched by hand?

A. It will last a whole season when pitched by hand, but not by machine.

12 Q. How long does a keg last before it is worn out entirely?

A. Well, from my judgment and experience, about five years for shipping purposes and about eight years for city use.

13 Q. By which method do the kegs last the longest, by hand or machine pitching?

A. Well, by hand; you have to pitch it more when pitched by steam; the more pitching the keg has the more it is worn out; you have to drive the hoops when you pitch by hand more; by machine it affects the stave opposite the bung-hole and the bung-hole stave. Hand pitching will last twice as long as machine pitching.

14 Q. About how many kegs do seven men pitch by hand in one hour upon the average?

A. Well, they can pitch by hand one hundred; of course, they must understand their business of how to drive the hoops and set the kegs on fire. There is a big difference. I have worked as a hand myself, and I have had some partners who could not do as much work as I did. There is a difference in hands; they must be good hands.

15 Q. State whether or not it requires good hands in pitching by machine.

A. We do not need so good hands in machine pitching as by hand pitching; of course, they are similar.

582 16 Q. What do you call a good hand; a brewer or a cooper?

A. Well, a brewer can do that kind of work just as good as — cooper; I call a good hand a brewer, as a brewer should do any

kind of work that belongs to the business of brewing, and pitching kegs belongs to the brewing business.

17 Q. Does it require brewers for pitching by hand?

A. No, no; some brewers in the old country do more of the pitching than a cooper does by hand. It is more particular work in pitching by hand than by steam, and a cooper understands more about it than a brewer, while every brewer to be a brewer should know that kind of work as well as a cooper.

18 Q. Is this work usually done by men who are employed in the brewery, or by a special force employed for this particular purpose?

A. Every brewer must be able to do this work, or I could not call him a brewer.

19 Q. How many skilled men does it require to pitch by hand and what does each do?

A. Three of them; one handles the keg and passes it to the man who sets it on fire and has the heating iron; we must have a hot iron, and we put the pitch in the keg and the hot iron is put in and the pitch set on fire; that is first. The second has to watch the keg when it is set on fire, and hold the head, and turn the keg so that the pitch will drop out; that is the second hand. The two hands put the head in and drive the hoop, and the two hands have to roll it; now the third one puts the head in and drives the hoop on.

These three must be good hands. By machine, if we have a
583 couple of good hands, it is just as good as if we have three good men.

20 Q. Do you include the engineer when you say two good hands by machine?

A. Yes, sir; one attends to the machinery and one applies the hot air to the keg.

21 Q. Where is the engine generally located when they pitch by machine?

A. Well, we had it on our machine right together; we run the blower by hand. We drove the blower by hand and, of course, that blower drove the heat right into the keg.

Mr. HARPER:

22 —. Did you ever work the machine by steam power?

A. Yes; at Foss and Schneider's we worked with steam power; not for small kegs, but big ones.

Mr. HARPER:

23 —. Did you have a steam engine to work the blower at Foss and Schneider's?

A. No; we had a blower that was connected with the brewery engine.

Mr. HARPER:

24 —. You did not work that by hand at Foss and Schneider's?

A. We did for small kegs.

Mr. HARPER:

25 —. Well, the big casks?

A. Well, the big casks, we had a blower by steam with the brewery engine. At first when we tried the machine, in 1879 or 1880, we worked by hand. I guess they do it to-day altogether by steam power.

26 Q. In which way is the most pitch used—by hand or steam power?

A. By steam there is more pitch used than by hand power. The pitch is thicker in a keg when pitched by machine than by hand.

27 Q. When pitching by hand do you pitch in a shed or in
584 the open air?

A. We can do that any place. I pitch most of the time in the open air when pitching by hand.

28 Q. How is it in other breweries in which you are acquainted, do they pitch under roof or in the open air?

A. Well, machine pitching, of course, has to be under a roof; you can't move the machine every day like we do by hand; you see when we pitch by machine you have only to set up the pitch kettle and it can be set any place, but by steam power you can't do that; you must have it under roof.

29 Q. Does the fire injure the kegs when the pitch is set on fire when pitching by hand?

A. It will, if the man who does the job does not understand his business; that is the reason we must have good hands on that job; we take the best hands for that purpose.

30 Q. How is this by machine?

A. By machine the keg does not get so much direct fire and does not get so much hurt if a man understands his business. If a man understands his business in hand pitching the keg does not get hurt any more than by steam pitching. The heated air strikes in by machine pitching more in a body and affects the staves. By hand pitching if a man does not look out he hurts the head of the keg; that is about it. The stave across from the bung-hole, where the hot air strikes, gets wore out sooner than by hand.

31 Q. Do you mean the bung-hole stave?

A. The bung-hole stave and the staves across on the opposite side.

Mr. HARPER:

585 32 Q. What does it do to the stave on the opposite side?

A. Well, it gets thinner from being heated with the hot air; the hot air takes some wood off; sometimes in hand pitching, when the head gets afire, it takes some wood off, too.

Mr. HARPER:

33 Q. Do you mean that it burns the stave more on the opposite side of the bung?

A. Yes; on the opposite side in front of the bung it affects the wood so that the staves get thinner in pitching by machine.

Cross-examined by Mr. BANNING:

34 X Q. Are you pitching your kegs now with a machine?
A. Yes, sir.
35 X Q. How long since you commenced to use a machine?
A. It is about a year or over a year since I got a machine.
36 X Q. When did you quit business with Foss & Schneider?
A. I quit there in 1877.
37 X Q. Was the firm Foss & Schneider then?
A. Foss, Schneider & Brenner.
38 X Q. Were you using a machine at that time at the brewery of Foss, Schneider & Brenner?
A. Yes, sir.
39 X Q. How long had you been using it?
A. Well, I can't tell you exactly. We experimented, as I said before, with Reuter's, from Hamilton, and then we bought—first we pitched the small ones by hand, and after that we pitched the big casks by steam-power blower.
586 40 X Q. How many times a year did you pitch your kegs when with the firm of Foss, Schneider & Brenner?

Mr. PARKINSON: I object to the question as not cross-examination.

A. Our rule was there at that time, as we done a large shipping business, to do it in the fall and spring.
41 X Q. Your rule, then, was to pitch the kegs two times a year?
A. Yes, sir.
42 X Q. In which way can you pitch kegs the fastest, by hand or by machine?
A. By machine we can pitch more; twice as much as by hand; but when pitched by hand they will last twice as long as pitched by machine.
43 X Q. When you pitched by hand how many times did you pitch the kegs a year?
A. Once.
44 X Q. Did you never pitch them two times a year?
A. Sometimes when a keg gets musty we pitch them twice, and some of them only once. When a keg stands out for a week or two weeks in the sun it gets a musty taste and you have to pitch it.
45 X Q. How long do the kegs last when pitched by machine—how many years?
A. Oh, they last just so long as by hand; for the city trade about eight years, and for the shipping trade about five years.
46 X Q. When pitched by a machine?
A. Yes, sir; and the same by hand.
47 X Q. When you say seven men can pitch one hundred kegs an hour do you mean that they will do that all day long?
587 A. Not in the summer time, in hot weather.
48 X Q. When the pitching was all done by hand did or not every brewer learn how to open and close kegs like a cooper?

A. That is the rule in the old country; every brewer must be a cooper, and — this country lots of brewers can head up a keg as well as a cooper; he must know how to do it.

49 X Q. They learn it in the brewery?

A. Learn it in the brewery; that belongs to the brewery business.

— Q. When the pitching was all done by hand, if a man came to the brewery and wanted to get work, did you require that he should know how to pitch kegs and casks, take the heads out, &c., before hiring him?

A. Sometimes we do.

51 X Q. If you expected him to do that kind of work?

A. Yes, sir; I have had hands many times when I put them on such work they did not understand it and I sent them off.

52 X Q. Look at this stave (defendant's exhibit) which I show you and tell us whether you ever saw a bung-stave split in that way when the pitching was all together by hand?

A. That stave was not split by the pitching; that stave was split by the hoops being loose and forcing in the bung.

53 X Q. So that the splitting has nothing to do with the pitching?

A. The pitching has — to do with the hoops being loose; when using a machine the staves get loose and the staves can be split by driving the bung in when they are loose; the hoops are loosened by the hot air from the machine.

54 X Q. When you did all your pitching by hand did you
588 ever see heads split and crack like this one marked No. 2 (defendant's exhibit), which I now show you?

A. That can be done before the keg gets pitched, in the cooper shop; I make a good many kegs myself; I know where we work by hand, when the head does not go in, they knock down on it to get it in and split it in that way; it can be split by pitching, also.

55 X Q. When you were pitching by hand have you ever found or seen heads split like that one?

A. Yes; when a man does not understand his business, in putting in the head.

56 X Q. It is caused by carelessness in the way that the keg is handled or the head put in?

A. It is one of the means of splitting by putting the head in.

57 X Q. Did you ever see a head cracked and split like that when you were pitching with a machine?

A. I never examined; you see we don't take the heads out by machine pitching.

58 X Q. How long since you pitched any kegs by hand?

A. We pitch a little now, when the machine is out of order, by hand.

59 X Q. If the machine is out of order you pitch by hand?

A. Yes, sir; I did it about a couple of years ago.

60 X Q. Have you got any kegs now pitched by hand?

A. Well, I guess that we have some; I think that we have had the machine about a year or a little over a year.

61 X Q. You don't know whether you have any still or not that you pitched by hand?

A. I guess that we have some, if we can find them; when a keg is used two years without pitching you can see whether it is hand or machine pitched.

589 62 X Q. How, in your opinion, was this stave pitched, by hand or machine?

A. Well, this looks to me like machine pitching, because the pitch is too thick on the stave for hand pitching; when we start the whole keg on fire you see that the pitch is not so thick.

63 X Q. If you made the hot air from your machine hot enough, would it not melt all the pitch off of the stave?

A. Not so well on the bung-stave as on the opposite stave. When the pipe is put in at the bung it throws the hot air on the opposite side.

64 X Q. Are not all the other holes in the keg shut up so that the hot air has to come out at the bung?

A. You can do this by having a hole behind so that the smoke can get out.

65 X Q. Another hole besides the bung-hole?

A. Yes, sir; the small hole in the head is open.

66 X Q. You have a small hole in the head open when you pitch by machine?

A. Yes, sir.

Mr. HARPER:

67 —. When you take the hot-air pipe out in pitching with a machine, do you drive the bung in before you commence to roll the keg around?

A. Yes, sir.

68 X Q. And put a plug in the hole in the head?

A. Yes, sir.

69 X Q. So that you have it all closed up before you roll it around?

A. Yes, sir.

70 X Q. When pitching by a machine do you put the pitch from the kettle into the keg before you put the air pipe into the keg or afterwards?

A. Afterwards; some put in before—I don't do that, I put it in after that.

590 71 X Q. So that the pitch which is used to coat around the inside of the keg has not been subjected to the hot blast, but is just as it comes out of the kettle?

A. We pitch each year, and the pitch must be so hot that it runs from the keg.

Mr. HARPER:

72 —. But you put the new pitch in after you take the keg off of the machine?

A. Yes, sir; when I take it off before I roll it I put the new pitch in.

Mr. HARPER:

73 —. So that the hot blast from the machine does not get upon the new pitch?

A. No, sir.

74 X Q. Are all casks pitched by a machine as thickly coated with pitch as this stave?

A. Yes, sir.

75 X Q. Does it make any difference as to the thickness of the pitch whether the keg is a new one or an old one that has been pitched several times?

A. Well, if the pitch cracks it falls off from the stave and the keg is musty.

76 X Q. What is the reason you cannot get the coating as thin in the keg when pitching with a machine?

A. Why, you cannot make the keg as hot so that the pitch will melt off before you spoil the stave across from the bung-hole by the hot air.

78 X Q. Is it not your understanding that the keg is laid over on its side?

A. Some lay it so and some stand it up on end. I stand mine end up.

79 X Q. If you laid the keg on its side so that the bung-hole would be down, would not the pitch run out at the bottom?

A. Well, that is all the same when you lay it down, the hot air strikes through; it affects the side the same as when you stand it up on the end.

591 80 X Q. If you have the bung-hole up then the pitch falls down to the lower side of the keg?

A. Well, it does not make much difference which way you have the keg—whether it is end up or on its side—the hot air would strike through and heat the stave on the opposite side.

81 X Q. Would not the pitch which had fallen down to the bottom of the keg receive the hot-air blast, and thus protect the wood?

A. I can't see how the hot air would have any more effect if you laid the keg down on its side or set it upright. Now, the hot-air pipe goes in the bung-hole and strikes right through and has an effect upon the stave on the opposite side.

82 X Q. If you were to have the pipe so arranged that it would strike upon the pitch lying on the bottom of the keg, would not that make some difference or would it not?

A. Well, when the pitch is hot enough it will melt—the old pitch. If the air you put in is not hot enough of course it would not melt the pitch off.

83 X Q. How many large casks, say thirty-barrel casks, could seven men pitch in a day in the old way?

A. Well, after you get the heads out of the big casks?

84 X Q. Well, by hand, taking out the heads.

A. Well, I have pitched as many as thirty in a day.

85 X Q. Thirty in a day?

A. Yes, sir; complete.

86 X Q. Did you ever use the pitch pan?

A. Yes, sir.

87 X Q. How many could the same number of men pitch in a day by the pitch pan?

A. Well, they could pitch forty-five or fifty with a couple of pitch pans.

592 Mr. PARKINSON:

88 —. Please examine the hole in this bung-stave and say if the hole is round.

A. That hole is not round. The hole is the longest the long way of the stave. That comes from putting the hot-air pipe of the machine in the hole; it burns; it makes its shape a little longer one way than another, and in this way the hole gets out of shape.

89 X Q. In other words, wherever the pipe strikes it burns the hole?

A. Yes, sir; and the effect is that the hole gets longer lengthways of the stave.

90 X Q. How big is the hot-air pipe on a pitch machine?

A. I guess about three-fourths of an inch; I can't tell exactly; I never measured it.

Mr. PARKINSON:

91 —. State whether the bungs are made round or oval.

A. The bungs must be round.

Mr. PARKINSON:

92 —. What effect would the driving of a round bung into a hole which was burned out lengthways of the stave have?

A. It does not have much effect at all. The bungs are made of soft wood, and it takes the shape of the hole.

Mr. PARKINSON:

93 —. Would the staves be more or less likely to split?

A. Well, when the hoops are not tight and the hole not round, if you drive a bung hard of course the stave might split. If the hole in the bung was like this one and the bung driven it would split if the hoops were not tight.

593 Filed Nov. 16th, 1883.

NOBLE C. BUTLER, *Clerk.*

Circuit Court of the United States, Southern District of Ohio. In Equity.

MATTHEW GOTTFRIED *vs.* CHRISTIAN MOERLEIN.

Before master.

STATE OF ILLINOIS, } *ss:*
Cook County, }

[On margin:] At the time of the hearing, Sept. 21st, 1883, this affidavit was, by agreement of counsel, received and taken as a deposition, defendant's counsel waiving cross-examination.

W. P. F.

Thomas A. Banning, being duly sworn, on oath deposes and says that a few days prior to August 2d, 1883, he sent word to the brewery of Matthew Gottfried, the complainant, that he would like to be informed when any kegs were to be pitched on his machine as he desired to attend; that word was sent back that they would pitch again on said second day of August; that affiant attended on said day and saw a great many kegs pitched; that neither Mr. Gottfried nor his men nor any of them were informed of affiant's object in desiring to know when pitching was to be done or in attending as he did; that no instructions of any kind whatever was given to anybody whatever as to how the pitching should be done; that affiant has often seen kegs pitched at complainant's brewery, and that the pitching done on the said second day of August was exactly like the pitching which he has seen done at said brewery many times
594 during the past few years with results in nowise different from the results which he has always seen done at said brewery, and in no respect were they better or more perfect than he has always seen them; that after a number of kegs had been pitched so that affiant could see that they were all treated alike, affiant instructed the foreman to send to his office the keg which he has called Gottfried's keg, identified by his brand; that the keg was chosen by affiant indifferently from many others like it, so far as affiant could see; that no examination of any kind was made to see how the keg was pitched, either by looking or feeling inside of it by affiant or any one else, prior to the choosing of said keg, and that from affiant's knowledge of the pitching done at complainant's brewery, from having often seen it done, he is able to state positively that the keg so chosen and introduced in evidence before your honors is but a fair sample and nothing better *of* the regular, ordinary, and usual pitching done on complainant's machine at his brewery.

THOMAS A. BANNING.

Subscribed and sworn to before me this 19th day of September, 1883.

[SEAL.] WILLIAM H. DYRENFORTH,
Notary Public.

595 *Master's Report. Filed Nov. 16th, 1883. Noble C. Butler, Clerk.*

In the Circuit Court of the United States for the Northern District of Illinois.

MATTHEW GOTTFRIED *et al. v.* PETER SCHOENHOFEN.

SAME *v.* FRANK BARTHOLOMAE *et al.*

SAME *v.* PETER FORTUNE *et al.*

To the honorable the judges of said court:

I, Henry W. Bishop, master in chancery, to whom by orders entered therein the above-entitled causes were referred for the purpose of taking and reporting to said court an account of the num-

ber of barrels, casks, kegs, and other vessels which the defendants have pitched or prepared for pitching by the use of machines embracing or employing the patented improvement of the complainant, and the gains, profits, and advantages which the defendants have received or which have arisen or accrued to them, and also all
596 damages which the complainants have sustained or which have arisen or accrued to them from infringement by the defendants of said letters patent by the use of said improvement, hereby report:

That upon this hearing I have been attended by Messrs. Banning and Banning, solicitors for the complainant, and by Col. Jussen, solicitor for the defendants. Upon behalf of the respective parties there have been introduced witnesses whose testimony has been taken and is herewith reported and made a part hereof. I have also heard the arguments of respective counsel.

Upon consideration of all of which I find and report that between 1876 and 1879 the defendant, Peter Schoenhofen, pitched with the complainant's machine as follows:

In 1876	1,700 kegs and	289 casks.
" 1877	2,300 " "	250 "
" 1878	2,500 " "	250 "
" 1879	2,500 " "	100 "
Making a total pitched during said period,	9,000 kegs.	889 casks.

I also find that defendant, Fortune Brothers, during the same period pitched with the infringing machine in—

1876	500 kegs and	33 casks (over 30 barrels).
1877	150 " "	
1878	300 "	
1879	150 " "	52 casks (over 30 barrels).
Total	1,100 " "	85 casks (over 30 barrels).

597 That the defendant Bartholomae and Roessing pitched with the infringing machine in—

1876	600 kegs and	100 casks
1877	600 " "	100 "
Total	1,200 " "	200 "

The evidence from which these results are derived is found in the testimony of the defendants themselves, and it is claimed, upon the part of the complainants, that it represents only a small portion of the work which was done by the defendants, respectively, with the complainants' infringing machine during the period covered by the accounts; that the amount of business done by these defendants during this time in connection with the use of said patent would justify a much larger finding, but no testimony in respect to this question has been introduced other than the testimony of the de-

fendants themselves, in which the estimate has been furnished and upon the basis of which the account is stated. I have therefore adopted this as furnishing the only information at hand upon this point.

I find that it is shown by the evidence that an established patent fee for this improvement exists, and that the complainant is entitled to the benefit and application of it in these cases. This consists of a royalty of 15 cents for every keg or vessel of less capacity than a barrel for each and every time such vessels and kegs are
598 pitched or heated for pitching by the use of the patented machine. No satisfactory evidence is offered me which enables me to report an account of the gains, profits, and advantages accruing to the defendant from the use of said machine. It is claimed, upon the part of the defendants, that the only license fee which can be enforced against them is that which was paid by others during the time of the infringement, not the fee which was arbitrarily charged and forcibly collected after the decision of December 1st, 1879, establishing the patent of the complainant, and evidence is adduced showing sales made during that period which it is claimed should be applied in these cases, but during all of this time it appears that the patent was regarded by those using it as invalid, and it does not seem fair that the right of the complainant to fix his license fees should be influenced by a state of facts which then existed or by anything that was done by him before his patent was established, but that he should have the full benefit of the result of that litigation through the uniform settlements which are shown to have been made upon the strength of it.

Upon the basis, therefore, of these conclusions I find and report that the complainant is entitled to a royalty of 15 cents per keg upon 9,000 kegs pitched by Schoenhofen during the period referred to, amounting to thirteen hundred and fifty dollars ($1,350),
599 and $1.00 a cask for 889 casks shown to have been pitched during the same period by said defendant, making a total due from said defendant of twenty-two hundred and thirty-nine dollars ($2,239).

That said complainant is entitled to 15 cts. a keg for 1,100 kegs and $1.50 per cask (over 30 barrels) for 85 casks shown to have been pitched by defendants, Fortune Brothers, during said time, making a total due from said last-named defendants of two hundred and ninety-two dollars and fifty cents ($292.50).

That there is due from Bartholomae and Roesing, at 15 cts. per keg for 1,200 kegs and for 200 casks at $1.00 per cask, the gross sum of three hundred and eighty dollars, and I respectfully recommend that decrees be entered against said defendants for said amounts.

All of which is respectfully submitted.

HENRY W. BISHOP,
Master in Chancery, &c.

Endorsed: Filed M'ch 10th, 1882. W. H. Bradley, cl'k.

United States Circuit Court, Northern District of Illinois. In Chancery.

TUESDAY, *May 16th*, 1882.

Present: Hon. Henry W. Blodgett, district judge.

MATTHEW GOTTFRIED *et al.*

v.

FRANK BARTHOLOMAE and BERNARD ROESING.

600 This cause coming on to be heard upon the report of Henry W. Bishop, Esq., the master to whom this cause was referred, dated the tenth day of March, 1882, by which report it appears that there is due from the defendants to the complainants the sum of three hundred and eighty dollars ($380) for the infringement by the defendants of letters patent of the United States No. 42580, issued to the complainants, Gottfried and Holbeck, May 3d, 1864, for an improved mode of pitching barrels:

It is thereupon ordered, adjudged, and decreed by the court that the said report of the said master do stand confirmed, and that the said defendants do pay to the said complainants the said sum of three hundred and eighty dollars ($380) and costs of suit to be taxed herein, and that said complainants have execution therefor.

United States Circuit Court, Northern District of Illinois. In Chancery.

TUESDAY, *May 16th*, 1882.

Present: Hon. Henry W. Blodgett, district judge.

MATTHEW GOTTFRIED *et al.*

v.

PETER FORTUNE and JOHN FORTUNE.

601 This cause coming on to be heard upon the report of Henry W. Bishop, Esq., the master to whom this cause was referred, dated the tenth day of March, 1882, by which report it appears there is due from the defendants to the complainants the sum of two hundred and ninety-two dollars and fifty cents ($292.50) for the infringement by the defendants of letters patent of the United States No. 42580, issued to the complainants, Gottfried and Holbeck, May 3d, 1864, for an improved mode of pitching barrels:

It is thereupon ordered, adjudged, and decreed by the court that the said report of the said master do stand confirmed, and that the said defendants do pay to the said complainants the said sum of two hundred and ninety-two dollars and fifty cents ($292.50) and costs of suit to be taxed herein, and that said complainant- have execution therefor.

United States Circuit Court, Northern District of Illinois. In Chancery.

TUESDAY, *May 16th*, 1882.

Present: Hon. Henry W. Blodgett, district judge.

MATTHEW GOTTFRIED *et al. vs.* PETER SCHOENHOFEN.

This cause coming on to be heard upon the report of Henry W. Bishop, Esq., the master to whom this cause was referred, dated the tenth day of March, 1882, by which report it appears that
602 there is due from the defendant to the complainants the sum of two thousand two hundred and thirty-nine dollars ($2,239) for the infringement by the defendant of letters patent of the United States No. 42580, issued to the complainants, Gottfried and Holbeck, May 3d, 1864, for an improved mode of pitching barrels:

It is thereupon ordered, adjudged, and decreed by the court that the said report of the said master do stand confirmed, and that the said defendant do pay to the said complainants the said sum of two thousand two hundred and thirty-nine dollars ($2,239) and costs of suit — be taxed herein, and that said complainants have execution therefor.

NORTHERN DISTRICT OF ILLINOIS, *ss:*

I, William H. Bradley, clerk of the circuit court of the United States for said northern district of Illinois, do hereby certify the above and foregoing to be true copies of the master's report filed in said court on the tenth day of March, 1882, and of the orders entered in said court on the sixteenth day of May, 1882, in the following-entitled causes, respectively, to wit, Matthew Gottfried *et al. v.* Frank Bartholomae and Bernard Roesing, Matthew Gottfried *et al. vs.* Peter Fortune and John Fortune, and Matthew Gottfried *et al. vs.* Peter Schoenhofen, as appears from the records and originals thereof now in my custody.

603 In testimony whereof I have hereunto set my hand and affixed the seal of said court, at my office, in Chicago, in said district, this fifth day of June, 1882.

WILLIAM BRADLEY, *Clerk.*

Report of Special Master.

United States Circuit Court, Southern District of Illinois. In Chancery.

MATTHEW GOTTFRIED *et al. vs.* ANTON MEYER *et al.*

Master's report.

To the honorable judges of said court:

I, Ezra H. Prince, special master, to whom the above-entitled cause was referred for the purpose of taking and reporting to said court an accounting of the number of barrels, casks, kegs, and other vessels

which the defendants have pitched or prepared for pitching by the use of machines embracing or employing the patented improvements of complainants, and the gains, profits, and advantages which the defendants have received or which have arisen or accrued to them, and also all damages which the complainants have sustained or which have arisen or accrued to them from infringement
604 by the defendants of said letters patent by the use of said improvement, do hereby report that on the 21st day of May I took the deposition of Anton Meyer, one of the defendants, and on the 8th day of June, 1882, there was taken the deposition of Matthew Gottfried, which depositions are herewith returned and made a part of this report.

And now, this cause coming on to be heard on said depositions, and having heard the arguments of Messrs. Banning and Banning, solicitors for the complainants, and Messrs. Rowell and Hamilton, for defendants, and being fully advised in the premises, I do find that the defendants from November, 1874, to May 3d, 1881, pitched with complainants' machine 3,600 kegs smaller than a barrel and 30 casks holding 30 barrels.

I find from the evidence that an established patent fee for this improvement exists, and that the complainants are entitled to the benefit and application of it in this case. This consists of a royalty for fifteen cents for every keg or vessel of less capacity than a barrel and one dollar and a half for every cask holding over thirty barrels for each and every time such keg, cask, or barrel is pitched or prepared for pitching by the use of the patented machine. On the hearing before me said claimant waived all claims for gains, profits, and advantages accruing to the defendants from the use of said machine, but *vested* their claims herein for damages accruing to them from the use of said machine.

605 I therefore find and report that the complainants are entitled to a royalty of fifteen cents per keg upon thirty-six hundred kegs pitched by the defendant with said machine during the period referred to, amounting to $540, and one dollar and a half per cask for thirty casks holding over thirty barrels, amounting to $45, and on all the sum of $585.

All of which is respectfully submitted.

April 9th, 1883.

EZRA M. PRINCE,
Special Master.

Master's fee, $50; paid by compl's.

And now comes the def't, F. X. Wochner, surviving partner of the firm of Meyer and Wochner, and object- to the report of special master for reasons following:

1st. There is no established market price for pitching according to the evidence taken.

2d. The value fixed is so out of proportion to actual benefit as to show that the supposed market was fixed for purposes of litigation.

3d. The deposition taken is incompetent evidence in many of its parts.

4th. There is no evidence of violating any of the rights of complainants.

By ROWEL AND HAMILTON,
Att'ys for F. X. Wochner, Surviving Partner.

And now comes the defendant Wochner and files his ex-
606 ceptions to the master's report herein, and the master, having fully considered said exceptions, doth overrule each and every one of said exceptions.

April 30th, 1883.

EZRA M. PRINCE,
Special Master.

Endorsed: Filed May 1st, 1883. J. A. Jones, clerk.

Decree.

In the Circuit Court of the United States for the Southern District of Illinois. In Chancery.

SATURDAY, *June 9th*, 1883.

Present: Hon. Samuel H. Treat, district judge.

MATTHEW GOTTFRIED, JOHN F. T. HOLBECK, and JOHN H. STROMBERG
vs.
FRANCIS X. WOCHNER, Survivor, &c.

And now come the complainants and suggest the death of the defendant, Anton Meyer, and thereupon it is ordered that this cause proceed in the name of his surviving partner and codefendant, Francis X. Wochner.

And this cause coming on to be heard upon exceptions by said defendant to the report of Ezra M. Prince, Esq., special master, dated April 9th, 1883, and made pursuant to the interlocutory decree entered January 19th, 1881, by which report it appears
607 that there is due from the said defendant to the complainants the sum of five hundred and eighty-five dollars for infringement by the said defendant of patent No. 42580, issued to Matthew Gottfried and John F. T. Holbeck May 3d, 1864, for an improved method of pitching barrels, and said exceptions being argued — J. H. Rowell, Esq., of counsel for defendants, and Ephraim Banning, Esq., of counsel for complainants, and the court being fully advised in the premises—

It is thereupon, *in* consideration thereof, ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that the defendant's said exception to said master's report be overruled, and that in every respect said report do stand ratified and confirmed, and that the said defendant, Francis X. Wochner, survivor, &c., do pay to the said complainants the said sum of five hundred and eighty-five dollars ($585) so found due as aforesaid, and the costs of suit, to be taxed herein, and that said complainants have execution therefor.

UNITED STATES OF AMERICA, } ss:
Southern District of Illinois, }

In the United States Circuit Court.

I, John A. Jones, clerk of the circuit court of the United States for said southern district of Illinois, do hereby certify that the foregoing are true and correct copies of the report of Ezra M. Prince,
608 Esq., special master, and the exceptions thereto filed May 1st, 1883, and the final decree rendered by said court on this 9th day of June, 1883, all in a certain cause pending in said court, wherein Matthew Gottfried, John F. T. Holbeck, and John H. Stromberg are complainants and Francis X. Wochner, survivor, &c., is defendant, as fully as the same appear of file and record in my office.

In testimony whereof I have hereunto set my hand and affixed the seal of said court, at my office, in the city of Springfield, in said district, this 9th day of June, 1883.

J. A. JONES, *Clerk.*

In the Circuit Court of the United States, Central District of Iowa.
In Equity.

MATTHEW GOTTFRIED *et al.*
vs.
MATTHIAS FRAHM. } No. 1316.

To the honorable the judges of the circuit court of the United States for the central district of Iowa:

I, William C. Hillis, the master to whom it was referred under the interlocutory decree herein to ascertain, state, and report to the court an account of the gains, profits, and advantages which the defendant has received or which have arisen or accrued to him from the infringement of the letters patent of the complainants mentioned in the said decree and of the damages which the complain
609 ants have suffered thereby, do respectfully report as follows:

I have been attended by Thomas A. Banning, Esq., of counsel for the complainants, and James T. Lane, Esq., of counsel for defendant, and have taken in evidence the depositions of the said Matthias Frahm and Matthew Gottfried, on behalf of said complainants, and Herman Halchan, W. F. Wunder, Ignatz Huber, on behalf of said defendant. From such evidence I find as matter of fact—

1. That since June, 1870, until the 28th day of July, 1880, the said defendant used at his brewery, in the city of Davenport, Iowa, one machine for pitching barrels and kegs infringing the letters patent — on in this case.

2d. That while defendant had such machine in use he pitched therewith seven thousand and thirty-seven (7,037) kegs, such as half barrels, quarters, eighths barrels, and vessels smaller than a barrel.

3d. That complainants depend upon their license fees for their compensation from the said patented invention, and have an estab-

lished tariff or rate of license fees for the use thereof, to wit, a royalty of fifteen (15) cents for every keg or vessel of less capacity than a barrel for each and every time such kegs and vessels are pitched or heated for pitching by the use of their patented machine.

No sufficient evidence has been presented to enable me to report an account of the gains, profits, and advantages accruing to the
610 defendant from the use of the said machine.

4th. From the certified copies of assignments under the patent sued on in this cause, introduced in evidence before me, the undersigned master, it appears that the complainant, John F. T. Holbeck, assigned all his right, title, and interest in and to said letters patent to the complainant, Matthew Gottfried, on, to wit, May 1st, 1879; that the complainant, John H. Stromberg, assigned all his right, title, and interest in and to said letters patent to the complainant, Matthew Gottfried, on, to wit, December 15th, 1879, and that the said Matthew Gottfried is now the legal and equitable owner of said letters patent and all claims for damages on account of the past infringement thereof, and is the only person beneficially interested in the result or proceeds of this suit.

It is further shown by the testimony that some years ago, and before the decision sustaining the validity of the patent sued on, the complainants Gottfried and Holbeck sold some machines at a profit of about one hundred dollars per machine, and that at the time of Gottfried's purchase of Holbeck's interest in the patent, to wit, May 1st, 1879, he gave back to Holbeck, who was making and selling machines, license to continue their manufacture and sale upon payment to Gottfried ten per cent. on the gross amount of each sale of a machine.

611 From the testimony of Gottfried it is further shown that at the time of the sales of machines by himself and Holbeck, and at the time of his purchase of Holbeck's interest and the giving back to Holbeck the license to make and sell said machine, the brewing trade generally considered the patent to be invalid.

Gottfried further testifies that the license to Holbeck was given as a part of the consideration of his purchase of Holbeck's interest, and that he has sold no machines himself, and that he has waived the per cent. reserved in said license on all machines made and sold since the first day of December, 1879, the date of the court's decision sustaining and declaring the validity of the patent sued on.

From the foregoing facts as shown by the evidence it does not seem just that complainants' right to fix license fees should be affected by sales made or license granted under such circumstances, and while the brewers generally denied the validity of the patent sued on.

I have, therefore, considered that the measure of complainants' damages is properly to be predicated upon the license fee established by Gottfried since the patent has been sustained by the court and regarded as valid by the brewing public.

I therefore find the complainants have earned a royalty, as above stated, of fifteen (15) cents per keg on seven thousand and thirty-seven (7,037) kegs, and that the non-payment of such royalty

612 represents the damages suffered by complainants by reason of the infringement of their letters patent by the defendant, which damages are hereby reported as amounting to one thousand and fifty-five dollars and fifty-five cents.

All of which is respectfully submitted.

WILLIAM C. HILLIS, *Master.*

Master's fee, $20.

I, William C. Hillis, master aforesaid, hereby certify that in making up my finding and report in the above cause I took into consideration the depositions of Matthias Gottfried and Matthias Frahm, on the part of complainants, and I also took into consideration the depositions of Herman Malcham, George Wagner, W. F. Wunder, Ignatz Thurber, George Mengel, John Laerman, Julius Lehrand, and Christian Dindinger, on the behalf of defendant, said deposition being all the testimony introduced before me.

All of which is respectfully submitted.

WM. C. HILLIS, *Master.*

Endorsed: Equity No. 1316. U. S. circuit court, central district of Iowa. In equity. Matthew Gottfried *et al. vs.* Matthew Frahm. Master's report and accounting, etc. Filed June 23d, 1881. E. R. Mason, clerk.

In the Circuit Court of the United States for the Central Division, Southern District of Iowa.

613 I, Ed. R. Mason, clerk of the said court, do hereby certify that the foregoing transcript contains a full, true, and complete copy of the master's report in a certain cause in said court, wherein Matthew Gottfried *et al.* were complainants and Matthias Frahm was defendant, as true, full, and complete, as the original of the same now remains on file and of record in my office.

In testimony whereof I hereunto subscribe my name and affix the seal of said court, at my office, in Des Moines, in said district, this 13th day of March, 1883.

E. R. MASON,
Clerk U. S. C. C., Central Division, District of Iowa.

Report of Special Master.

Circuit Court of the United States, Eastern Division of the Western District of Missouri. In Equity.

MATTHEW GOTTFRIED and JOHN F. T. HOLBECK
vs.
JOHN SIEBEL and JOHN HELM.

To the honorable the judges of the circuit court of the United States for the eastern division of the western district of Missouri:

I, Charles A. Winslow, the master to whom it was referred
614 under the interlocutory decree herein to ascertain, state, and report to the court an account of the gains, profits, and advan-

tages which the defendants have received or which have arisen or accrued to them from the infringement of the letters patent of the complainants mentioned in said decree and of the damages which the complainants have suffered thereby, do respectfully report as follows:

I have examined the defendant, John Helm, under an order requiring him to appear before me for such examination, and have taken in evidence the depositions of Matthew Gottfried and Carl Bruder, which examinations and depositions are herewith returned. I appointed Monday, the 7 day of November, 1881, for a final hearing of said cause before me, and duly notified both complainants and defendants of the day set for such hearing, and that they could then introduce such evidence or present such arguments as they might desire. At the time fixed for such hearing, namely, Monday, November 7th, I was attended by Thomas A. Banning, Esq., of counsel for complainants, no one appearing for the defendants.

From such examination and depositions I find as matters of fact—

1st. That the defendants have for five years used at their brewery, in the city of Sedalia, Missouri, one machine for pitching barrels and kegs infringing the letters patent sued on in this case.

615 2d. That while the defendants had such machine in use they pitched therewith five thousand (5,000) kegs, such as half barrels, quarter barrels, and other vessels smaller than a barrel.

3rd. That complainants depend upon their license fees for their compensation from the said patented invention and have an established tariff or rate of license fees for the use thereof, to wit, a royalty of fifteen (15) cents for every keg or vessel of less capacity than a barrel for each and every time such vessels are pitched or heated for pitching by the use of their patented invention. No sufficient evidence has been presented to enable me to report an account of the gains, profits, and advantages accruing to the defendants from the use of the said machine.

4th. That from the copies of masters' reports and confirmations of such reports offered in evidence and produced before me at the hearing it appears that the royalty above found, namely, fifteen (15) cents, has been allowed the complainants by masters in equity and courts in other cases under the patent sued on.

5th. That from the certified copies of assignments and other instruments under the patent sued on in this case introduced in evidence before me it appears that the complainant, John F. T. Holbeck, assigned all his right, title, and interest in and to said letters patent to the complainant, Matthew Gottfried, May 1st, 1879, and that the said Matthew Gottfried is now the legal and equitable owner of said letters patent and all claims for damages on

616 account of the past infringement thereof, and is the only person beneficially interested in the results or proceeds of this suit.

It is further shown by the testimony that some years ago, and before the decisions sustaining the validity of the patent sued on, the complainants sold some machines at a profit of about one hundred dollars per machine, and that at the time of the purchase by Gott-

fried of Holbeck's interest in the patent he gave back to Holbeck, who was making and selling machines, a license to continue their manufacture and sale upon payment to Gottfried of ten per cent. on the gross amount of each sale of a machine.

From the testimony of Gottfried it is further shown that at the time of sales of machines by himself and Holbeck and at the time of his purchase of Holbeck's interest and the giving back to Holbeck the license to make and sell said machines the brewing trade considered the patent to be invalid. Gottfried further testifies that the license to Holbeck was given as a part of the consideration of his purchase of Holbeck's interest, and that he has sold no machines himself, and that he has waived the ten per cent. reserved in said license on all machines made and sold since the first day of December, 1879, the date of the court's decision sustaining and declaring the validity of the patent sued on.

From the foregoing facts, as shown by the evidence, it does
617 not seem just that complainants' right to fix license fees should be affected by sales made or licenses granted under such circumstances, and while the brewers generally denied the validity of the patent sued on.

I have therefore considered that the measure of complainants' damages is properly to be predicated upon the license fee established by Gottfried and accepted by the brewers since the patent has been sustained by the courts and regarded as valid by the brewing public.

I therefore find that the complainants are entitled to a royalty, as above stated, of fifteen (15) cents per keg on five thousand (5,000) kegs, and that the non-payment of such royalty represents the damages suffered by complainants by reason of the infringement of their letters patent by the defendants, which damages are hereby reported as amounting to seven hundred and fifty dollars ($750).

Under the order of reference aforesaid I fixed September 9th, 1881, as the day for the hearing, and the U. S. court-house in Jefferson City, Mo., as the place, and on the — day of ——, 1881, I duly notified counsel for complainants and respondents of such meeting, and also on the — day of ——, 1881, I caused a *subpœna duces tecum* to be issued against the respondents, commanding them to appear on said day and be examined, and bring with them the books and papers of their firm, which was duly served on the — day of ——, 1881.

618 At the time and place aforesaid John Helm, one of the respondents, appeared unattended and without the books and papers of the firm, and I then and there took his examination in writing, which is herewith returned and explains why no books were produced, and the other respondent did not appear.

Not being able on the day and year aforesaid to complete the examination, I adjourned the further hearing until November 7th, 1881, at the same place, of which both complainants and respondents were duly notified, and at such hearing I was attended and completed the examination as hereinbefore reported.

In view of the fact that respondents, though several times duly notified and cautioned so to do, failed to appear and produce any

satisfactory evidence of the amount of benefits received by them for the admitted use of the infringing machine, and also failed to appear at the taking of depositions on the part of the complainants, although duly and timely notified of the time, place, and purpose of the same, and also failed to offer any evidence in opposition to that of complainants, I have felt compelled to accept the rate of royalty fixed by complainants, and shown by their evidence to be reasonable, as the true measure of their damages.

All of which is respectfully submitted.

CHARLES A. WINSLOW,
Special Master.

619 UNITED STATES OF AMERICA, } ss:
Eastern Division of the Western District of Missouri, }

In the Circuit Court of the United States for said Division, at the April Term, 1882.

MATTHEW GOTTFRIED *et al. vs.* JOHN SIEBEL *et al.*

TUESDAY, *April 25th*, 1882.

This day there is filed herein the following decree, to wit:

Circuit Court of the United States, Eastern Division of the Western District of Missouri. In Equity.

MATTHEW GOTTFRIED and JOHN F. T. HOLBECK
vs.
JOHN SIEBEL and JOHN HELM.

This cause coming on to be heard upon the report of Charles A. Winslow, special master of this court, dated the 21st day of November, 1881, by which report it appears that there is due from the defendants to the complainants the sum of seven hundred
620 and fifty dollars ($750): it is therefore ordered, adjudged, and decreed by the court that the said report of the said master do stand confirmed, and that the said defendants do pay to the said complainants the said sum of seven hundred and fifty dollars ($750), so found due as aforesaid, and the costs of suit to be taxed herein, and that said complainants have execution therefor.

A. KREKEL, *Judge.*

UNITED STATES OF AMERICA, } sct:
Western District of Missouri, Eastern Division, }

I, Henry C. Geisberg, clerk of the circuit court of the United States in and for said district, do hereby certify that the foregoing writing is a true copy of the master's report and decree entered of record April 25th, 1882, in case No. 1434, of Matthew Gottfried *et al. vs.* John Siebel *et al.*, as fully as the same remain on file and of record in my office.

In testimony whereof I hereunto subscribe my name and affix the seal of said court, at office, in the city of Jefferson, in said district, this tenth day of October, 1882.

H. C. GEISBERG, *Clerk.*

Master's Report. Gottfried vs. Heil.

Circuit Court of the United States, Central District of Iowa. In Equity.

MATTHEW GOTTFRIED *et al. vs.* CASPER HEIL.

621 To the honorable the judges of the circuit court of the United States for the central district of Iowa:

I, William C. Hillis, the master to whom it was referred under the interlocutory decree herein to ascertain, state, and report to the court an account of the gains, profits, and advantages which the defendant has received or which have arisen or accrued to him from his infringement of the letters patent of the complainants mentioned in the said decree, and of the damages which the complainants have suffered thereby, do respectfully report as follows:

I have been attended by Thomas A. Banning, Esq., of counsel for complainants, and James S. Lane, of counsel for the defendant, and have taken in evidence the depositions of the said Casper Heil and Matthew Gottfried, on behalf of said complainants, and Herman Molchaw, W. F. Wunder, Ignatz Hiaber, on behalf of said defendant. From such evidence I find as matter of fact—

1st. That since 1873 until the 11th day of July, 1880, the said defendant used at his brewery, in the city of Burlington, Iowa, one such machine for pitching barrels and kegs, infringing the letters patent sued on in this cause.

2d. That while defendant had such machine in use he pitched therewith four hundred and fifty-nine (459) kegs, such as quarters and sixths, and vessels smaller than a barrel, and sixty (60) holding less than thirty barrels.

622 3d. That complainants depend upon their license fees for their compensation from the said patented invention, and have an established tariff or rate of license fees for the use thereof, to wit, a royalty of fifteen (15) cents for every keg or vessel of less capacity than a barrel and one dollar ($1.00) for every cask of a less capacity than thirty barrels for each and every time such kegs and casks are pitched or heated for pitching by the use of their said patented machine. No sufficient evidence has been presented to enable me to report an account of the gains, profits, and advantages accruing to the defendants from the use of the said machine.

4th. From the certified copies of assignments under the patent sued on in this cause introduced in evidence before the master it appears that the complainant, John F. T. Holbeck, assigned all his right, title, and interest in and to said letters patent to the complainant, Matthew Gottfried, on the 1st day of May, 1876; John H. Stomberg assigned all his right, title, and interest in and to said letters patent to the complainant, Matthew Gottfried, on the fifteenth (15) day of December, 1879, and that the said Matthew Gottfried is now the legal and equitable owner of said letters patent and all claims for damages on account of the past infringement thereof, and is the only person beneficially interested in the result or proceeds of

this suit. It is further shown by the evidence introduced that
623 some years ago the complainants, Gottfried and Holbeck, sold some machines at a profit of about one hundred dollars per machine, and that at the time of Gottfried's purchase of Holbeck's interest in the patent on the 1st day of May, 1879, he gave back to Holbeck, who was making and selling machines, a license to continue their manufacture and sale upon payment to Gottfried ten per cent. on the gross amount of each sale of a machine.

From the testimony of Gottfried it appears that at the time of the sales of machines by himself and Holbeck, and at the time of the purchase of Holbeck's interest and the giving back to Holbeck the said license, the brewing trade generally considered the patent to be invalid. Gottfried further testified that the license to Holbeck was given as a part of the consideration of his purchase of Holbeck's interest in said letters patent; that he has sold no machines himself, and that he has waived the per cent. reserved in said license on all machines made or sold since the first day of December, 1879, the date of the court's decision sustaining and declaring the validity of the patent sued on. From the foregoing facts, as shown by the evidence, it does not seem just that complainants' right to fix license fees should be affected by sales made or licenses granted under such circumstances.

I have therefore considered that the measure of complainants' damages is properly to be predicated upon the license fee
624 established by Gottfried since the patent has been sustained by the court and regarded as valid by the brewing public.

I therefore find the complainants have earned a royalty, as above stated, of fifteen (15) cents per keg on four hundred and fifty-nine (459) kegs and one dollar ($1.00) per cask on sixty (60) casks, and that the non-payment of such royalty represents the damages suffered by complainants by reason of the infringement of complainants' letters patent by defendant, which damages are hereby reported as amounting in the aggregate to the sum of one hundred and twenty-eight dollars and eighty-five cents ($128.85) all of which is respectfully submitted.

WILLIAM C. HILLIS, *Master.*

Master's fee, $20.

Endorsed: Equity No. 1318. U. S. circuit court, central district of Iowa. Matthew Gottfried *et al. vs.* Casper Heil. In equity. Master's report and accounting, &c. Filed Jan. 23, 1881. E. R. Mason, clerk.

In the Circuit Court of the United States for the District of Iowa.

I, Ed. R. Mason, clerk of the said court for said district, do hereby certify that the foregoing transcript contains a full, true, and
625 complete copy of the master's report in a certain cause pending in said court, wherein Matthew Gottfried *et al.* are complainants and Caspar Heil is defendant, as full, true, and complete as the original of the same now remains on file and of record in my office.

In testimony whereof I hereunto subscribe my name and affix the seal of said court, at my office, in Des Moines, in said district, this 27th day of June, 1881.

E. R. MASON,
Clerk U. S. C. C., District of Iowa.

Circuit Court of the United States for the Southern District of New York. In Equity.

MATTHEW GOTTFRIED and JOHN F. T. HOLBECK
vs.
PHILIP SCHAEFER.

To the honorable the judges of the circuit court of the United States for the southern district of New York:

I, Joseph Gutman, Jr., the master to whom it was referred under the interlocutory decree herein and the order amendatory thereof to ascertain, state, and report to this court an account of the gains, profits, and advantages which the defendant has received or which have arisen or accrued to him, and the damages which the complainants have suffered by reason of the infringement of the
626 letters patent of the complainant mentioned in the said decree, do respectfully report as follows:

I have been attended by Hubert A. Banning, Esq., the counsel for the complainants, and have taken the testimony of the defendant, Philip Schaefer, and of his book-keeper, John Wetzel, and I have also taken in evidence the deposition of Matthew Gottfried, one of the complainants, which proofs are herewith submitted. From such evidence I find as matter of fact—

1st. That since the 1st day of February, 1877, the said defendant has had in use at his brewery, in the city of New York, one machine for pitching barrels, casks, and kegs, infringing the said letters patent.

2d. That since he has had such machine in use he has pitched therewith once in each of the years 1877, 1878, and 1879 two thousand small kegs and three hundred and twenty large casks of the capacity of thirty barrels and less, and in the present year four hundred small kegs.

3d. That the complainants depend upon their license fees for their *corporation* from the said patented machine and have an established tariff or rate of license fees for the use thereof, to wit, a royalty of fifteen cents on every keg or vessel of less capacity than a barrel and one dollar for each cask of less capacity than thirty barrels for each time that such kegs and casks are pitched.

No sufficient evidence has been presented to me to enable
627 me to report an account of the gains, profits, and advantages accruing to the defendant from his use of the said machine, but I find upon the foregoing facts:

That the complainants have earned a royalty, as stated above, of fifteen cents per keg on six thousand four hundred kegs and one dollar on nine hundred and sixty casks, and that the non-payment

of such royalty represents the damages suffered by the complainants by reason of the infringement of their letters patent by the defendant, and which damages are herewith reported as amounting to one thousand nine hundred and twenty dollars.

All which is respectfully submitted.

New York, May 26th, 1880.

JOSEPH GUTMAN, JR., *Master.*

A true copy.

JNO. DEUEL, *Clerk.*

Circuit Court of the United States, Southern District of New York.
In Equity.

MATTHEW GOTTFRIED and JOHN F. T. HOLBECK
vs.
PHILIP SCHAEFER.

This cause coming on to be heard upon the report of Joseph Gutman, Jr., one of the masters of this court, dated the 26th day of May, 1880, by which report it appears that there is due from the defendants to the complainants the sum of one thousand nine hun-
628 dred and twenty dollars ($1,920) for the infringement by the defendant of letters patent of the United States No. 42580, issued to the complainants, Matthew Gottfried and John F. T. Holbeck, May 3d, 1864, for an improved mode of pitching barrels, it is, therefore, ordered, adjudged, and decreed by the court that the said report of the said master do stand ratified and confirmed, and that the said defendant do pay to the said complainants the said sum of one thousand nine hundred and twenty dollars ($1,920) so found due as aforesaid, and the costs of suit, to be taxed, herein, and that said complainants have execution therefor.

SAMUEL BLATCHFORD.

A true copy.

JNO. DEUEL, *Clerk.*

Circuit Court of the United States, Southern District of New York.
In Equity.

MATTHEW GOTTFRIED and JOHN F. T. HOLBECK
vs.
SUSANA KRESS.

To the honorable the judges of the circuit court of the United States for the southern district of New York:

I, Joseph Gutman, Jr., the master to whom it was referred under the interlocutory decree herein to ascertain, state, and report to the court an account of the gains, profits, and advantages which the defendant has received or which have arisen or accrued to her from her infringement of the letters patents of the complain-
629 ants mentioned in the said decree and of the damages which the complainants have suffered thereby, do respectfully report as follows:

I have been attended by Hubert A. Banning, Esq., counsel for the complainants, and by Samuel Utermeyer, Esq., counsel for the de-

fendant, and have taken in evidence the depositions of said Matthew Gottfried and the testimony of Henry M. Hoar and Henry Gunther on behalf of said complainants and the testimony of Henry Gunther, Phillip Hoffman, Charles Guntlich, F. A. Newman, Peter Alferman, Jacob Ahles, Frederick Offerman, Robert H. Duncan, George Ringler, Charles Gunther, and Henry M. Hoar and the depositions of John H. Stromberg and John H. B. Latrobe on behalf of said defendant.

From such evidence I find as matter of fact—

1st. That in the latter part of the year 1878 and until some time in the fall of the year 1879 the said defendant used at her brewery, in the city of New York, one machine for pitching barrels, casks, and kegs, infringing the *patters* patent sued on in this case, which machine, as stated by defendant's foreman, was "used off and on, altogether, for about a year."

2d. That while defendant had such machine in use she pitched therewith four thousand five hundred (4,500) small kegs holding less than one barrel, seventy-five (75) casks holding less than thirty barrels, and forty-eight (48) casks of the capacity of over thirty barrels.

630 3d. That complainants depend upon their license fees for their compensation from the said patented machine and have an established tariff or rate of license fees for the use thereof, to wit: A royalty of fifteen cents for every keg or vessel of less capacity than a barrel, one dollar for every cask of less capacity than thirty barrels, and one dollar for every cask of greater capacity than thirty barrels for each time such kegs and casks are pitched or heated for pitching by the use of their patented machine.

No sufficient evidence has been presented to enable me to report an account of the gains, profits, and advantages accruing to the defendant from the use of the said machine.

Evidence has been produced on the part of the defendant to sustain the view that the complainants' royalty or license fee should be determined by the amounts paid to one John H. Stromberg (who at one time was jointly interested with the complainants in the patent) for settlements made and licenses granted by him or his attorneys under a power of attorney from him and the complainants and also by the price of machines sold by them.

These settlements, however, appear to have been made without actual knowledge or participation of the complainants and before the said Stromberg had assigned the interest he had in said patent to the complainants and while the brewing trade generally considered the patent to be invalid, and it does not seem just that

631 the complainants' right to fix license fees should be affected by settlements made or licenses granted under such circumstances.

The sales of the machines mentioned in the evidence appear also to have been made when the brewing trade generally considered the patent to be invalid, and no evidence has been introduced showing that after the validity of the patent had been passed by the courts any machines were ever sold by either of the complainants for a sum less

than they would have received on the royalty basis established by them as soon as the brewers were willing to recognize their rights, or that the purchasers of such machines had the right to use them without the payment of license fees or royalty.

I have, therefore, considered that the measure of complainants' damages is properly to be predicated upon the license fee established by them since the patent has been sustained by the courts and regarded as valid, and since the said Stromberg assigned the interest he had in the patent to the said complainants.

I consequently find that the complainants have earned a royalty, as above stated, of fifteen cents per keg on four thousand five hundred (4,500) kegs, one dollar per cask on seventy-five (75) casks less capacity than thirty barrels, and one dollar and fifty cents per cask on forty-eight (48) casks of a greater capacity than thirty barrels, and that the non-payment of such royalty represents the damages suffered by complainants by reason of the infringement of
632 their letters patent by the defendant, which damages are hereby reported as amounting to eight hundred and twenty-two dollars ($822).

All which is respectfully submitted.

N. Y., December 20th, 1880.

JOSEPH GUTMAN, JR.

A true copy.

JNO. DEUEL, *Clerk.*

Circuit Court of the United States, Southern District of New York.
In Equity.

MATTHEW GOTTFRIED and JOHN F. T. HOLBECK
vs.
SUSANA KRESS.

This cause coming on to be heard upon the report of Joseph Gutman, Jr., Esq., the master to whom it was referred under the interlocutory decree therein, which said report bears date the 20th day of December, 1880, and by which it appears that there is due from the defendant to the complainant the sum of eight hundred and twenty-two dollars for the infringement by the said defendant of letters patent No. 42580, issued to the complainants May 3d, 1864, for an improved mode of pitching barrels, being the patent sued on in this action and mentioned in the said interlocutory decree—

It is thereupon ordered, adjudged, and decreed, and this court, by virtue of the power and authority therein vested, doth order,
633 adjudge, and decree, that the said report of the said master do stand ratified and confirmed, and that the said defendant do pay to the said complainants the sum of eight hundred and twenty-two dollars ($822) so found due as aforesaid, and the costs of this suit, to be taxed, therein, and that the complainants have execution therefor.

SAMUEL BLATCHFORD.

A true copy.

JNO. DEUEL, *Clerk.*

Agreement Between Gottfried and Holbeck.

This agreement, made this first day of May, 1879, between Matthew Gottfried, of Chicago, Illinois, party of the first part, and John F. T. Holbeck, of the same place, of the second part, witnesseth:

That the party of the first part hereby licenses and empowers the party of the second part to manufacture and sell at his factory, in Chicago, subject to the conditions hereinafter named, pitching machines under letters patent of the United States No. 42580, granted May 3d, 1864, to John F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, to the end of the term for which said letters patent are granted or may be extended.

That the party of the second part agrees to pay to the party of the first part, as royalty under said patent, the same amount
634 that he has been paying the said party of the first part, and also to render an account quarterly from this date of the number of pitching machines sold by him, the price per machine for which the same were sold, and the names of the purchasers thereof, and to pay the said royalty at the time of rendering such account. If the said account shall not be rendered or if said royalty shall not be paid within thirty days from the end of each quarter the party of the first part may revoke this license by serving a written notice upon the party of the second part or by having a revocation recorded in the patent office, at Washington.

This license is made and accepted upon the following express condition: That in no case shall any authority to use any pitching machine under or by virtue of this license extend to, cover, include, or protect any such machine or the purchaser or user of any such machine that may directly or indirectly be sold by the party of the second part to any person or companies liable as infringers of said letters patent, and any such person or company shall take such machine subject to the condition that their liability for past infringement shall remain unimpaired and their use of such machine be considered as an infringement of said patent the same as the use of any other infringing machine.

In witness whereof the said parties have hereunto set their hands the day and year first above written.

635 MATTHEW GOTTFRIED.
JOHN F. T. HOLBECK.

I hereby waive all claim to the payment of moneys on royalties provided for in the within instrument.

M. GOTTFRIED.

U. S. PATENT OFFICE.

Received for record Mar. 8th, 1880. Recorded Liber B 25, page 311. Ex'd: F. C. T.

Agreement Between Gottfried and Jung & Borchert.

This agreement, made this tenth day of January, 1880, between Matthew Gottfried, of Chicago, Illinois, of the first part, and Phillip Jung and Ernst Borchert, composing the firm of Jung and Borchert of Milwaukee, Wisconsin, of the second part, witnesseth:

That whereas letters patent of the United States No. 42580 were issued to J. F. T. Holbeck and Matthew Gottfried on the 3d day of May, 1864, for an improved mode of pitching barrels, of which the said Gottfried is now the sole owner; and whereas the party of the second part are desirous of using said patented invention:

Now, therefore, said parties have agreed and hereby agree as follows:

1st. The party of the first part hereby licenses and empowers the party of the second part, their successors and assigns, and any and all parties who may hereafter own or operate the brewery
636 now operated by them at Milwaukee to use the said invention described and claimed in said letters patent in pitching the casks, barrels, kegs, and other vessels used at said brewery and belonging thereto during the continuance of said letters patent and all extensions thereof.

2d. The party of the second part agree to make full and true returns to the party of the first part, under oath if required, upon the first days of April, July, October, and January in each year of all the casks, barrels, kegs, and other vessels pitched or heated for pitching by them by the use of said patented invention.

3d. The party of the second part agree to pay to the party of the first part, as a license fee under said patent, at the time of making the returns above provided for, the sum of fifteen (15) cents for each and every barrel, keg, quarter, eighth, or other vessel smaller than a barrel and one dollar ($1.00) for each and every cask of the capacity of thirty barrels or under for every time any of said vessels are pitched or heated for pitching by the use of said patented invention. (It is understood that the party of the second part have no casks holding over thirty barrels.)

4th. Upon failure of the party of the second part to make returns or to make payment of license fees as herein provided for thirty days after the days herein named the party of the first part may terminate this license by serving a written notice upon the party of the second part; but the party of the second part shall not thereby
637 be discharged from any liability to the party of the first part for any license fees due at the time of the service of said notice.

5th. It is understood that this agreement shall relate back to the time of the organization of the firm of Jung and Borchert and cover all vessels heretofore pitched by them, which vessels shall be reported and the license fees therefor paid in the manner above provided.

In witness whereof the parties have hereunto set their hands the day and year above named.

MATTHEW GOTTFRIED.
JUNG AND BORCHERT.

Jung and Borchert. Statement.

In accordance with the requirement contained in our agreement with Matthew Gottfried, dated January 10th, 1880, in reference to the Gottfried-Holbeck barrel-pitching patent, No. 42580, dated May 3d, 1864, we have to report that from the 25th of December, 1879, to the 1st of April, 1880, we have pitched by the use of the invention described and claimed in said patent one hundred and sixty kegs of a capacity less than a barrel and forty-one casks of a capacity less than thirty barrels; these are all the large casks that we expect to have occasion to pitch during the existence of the patent.

Chicago, April 24th, 1880.

JUNG AND BORCHERT.

638 *Agreement Between Gottfried and Hill & Piez.*

This agreement, made this 6th day of April, 1880, between Matthew Gottfried, of Chicago, Illinois, of the first part, and William Hill and Jacob Piez, composing the firm of Hill & Piez, of Newark, New Jersey, of the second part, witnesseth:

That whereas letters patent of the United States No. 42580 were issued to J. F. T. Holbeck and Matthew Gottfried on the 3d day of May, 1864, for an improved mode of pitching barrels, of which the said Gottfried is now the sole owner; and whereas the party of the second part are desirous of using said patented invention:

Now, therefore, said parties have agreed and hereby agree as follows:

1st. The party of the first part hereby licenses and empowers the party of the second part, their successors and assigns, and any and all parties who may hereafter own or operate the brewery now operated by them at Newark, N. J., to use said invention described and claimed in said letters patent in pitching the casks, barrels, kegs, and other vessels used at said brewery and belonging thereto during the continuance of said letters patent and all extensions thereof.

2d. The party of the second part agree to make full and true returns to the party of the first part, under oath if required, upon the first days of April, July, October, and January in each year of all the casks, barrels, kegs, and other vessels pitched or heated for pitching by them by the use of said patented invention.

639 3d. The party of the second part agree to pay to the party of the first part, as a license fee under said patent, at the time of making the returns above provided for, the sum of fifteen (15) cents for each and every barrel, keg, quarter, eighth, or other vessel smaller than a barrel, and one dollar ($1.00) for each and every cask of the capacity of thirty barrels or under for every time any of said vessels are pitched or heated for pitching by the use of said patented invention.

(It is understood that the party of the second part have no casks that require pitching holding over thirty barrels.)

4th. It is understood that this agreement shall relate back to the time of the organization of the firm of Hill and Piez and cover all

vessels heretofore pitched by them, which vessels shall be reported and the license fees therefor paid at the rate above provided.

In witness whereof the parties have hereunto set their hands the day and year above named.

MATTHEW GOTTFRIED.
HILL & PIEZ,
By W. HILL.

Agreement Between Gottfried and Genesee Brewing Co.

This agreement, made this 19th day of April, 1880, between Matthew Gottfried, of Chicago, Ills., of the first part, and the Genesee Brewing Company, of Rochester, New York, of the second part, witnesseth:

640 That whereas letters patent of the United States No. 42580 were issued to J. F. T. Holbeck and Matthew Gottfried, on the 3d day of May, 1864, for an improved mode of pitching barrels, of which the said Gottfried is now the sole owner; and whereas the party of the second part is desirous of using said patented invention:

Now, therefore, said parties have agreed and hereby do agree as follows:

1st. The party of the first part hereby licenses and empowers the party of the second part, its successors and assigns, and any and all parties who may hereafter own or operate the brewery now operated by it at Rochester, New York, to use said invention described and claimed in said letters patent in pitching the casks, barrels, kegs, and other vessels used at said brewery and belonging thereto during the continuance of such letters patent and all extensions thereof.

2d. The party of the second part agrees to make full and true returns to the party of the first part, upon the first days of July and October, 1880, and the first days of January and third day of May, 1881, of all casks, barrels, kegs, and other vessels which it may pitch or heat for pitching by the use of said patented invention.

3d. The party of the second part agrees to pay the party of the first part, as a license fee under said patent, at the time of making such returns, the sum of fifteen (15) cents for each and every barrel, keg, quarter, eighth, or other vessel smaller than a barrel,

641 and one dollar for each and every cask of the capacity of thirty barrels or under, and one dollar and fifty cents for each and every cask holding over thirty barrels for every time any of said vessels are pitched or heated for pitching by the use of said patented invention.

4th. This agreement shall relate back to the time of the organization of the said The Genesee Brewing Company and include all vessels heretofore pitched by it by the use of said patented invention.

5th. And whereas the party of the second part now reports that it has pitched by said invention about 600 kegs smaller than a barrel, 70 casks holding over thirty barrels, and 208 casks holding over thirty barrels, for which it now pays the sum of four hundred and

seventy-two dollars ($472) to the party of the first part, this being the amount due for past pitching at the rate of royalty above named: Now, therefore, in consideration of such payment the party of the first part hereby releases and forever discharges the party of the second part from any and all liability for the past infringement of said patent or use of said patented invention.

In witness whereof the parties have hereunto set their hands the day and year first above written.

MATTHEW GOTTFRIED.
GENESEE BREWING CO.,
By M. RANDOLF, *Pres.*

642 Witness:
FREDERICK MILLER.

In consideration of $228 to me in hand paid, the receipt of which is hereby acknowledged, I hereby release and discharge the above-named Genesee Brewing Company from all liability to account and pay for future pitching under the above contract, said $228 being now paid in advance by said company and accepted by me in full payment and satisfaction of all royalties to become due under said contract for the future pitching done by said company.

Chicago, April 19th, 1880.

MATTHEW GOTTFRIED.

Witness:
FREDERICK MILLER.

Agreement Between Gottfried and Jacobi, Coghlin & Co.

Whereas letters patent of the United States No. 42580 were issued on the 3d day of May, 1864, to Jno. F. T. Holbeck and Matthew Gottfried for an improved mode of pitching barrels, of which the said Gottfried is now the sole owner; and whereas Jacobi, Coghlin & Co., of Toledo, Ohio, have used said patented invention in pitching twenty-six hundred kegs or vessels smaller than a barrel, thirty casks holding less than thirty barrels, and fifteen casks holding over thirty barrels each, and now estimate that before the expiration of said patent they will have occasion to pitch three hundred more of said kegs, thirty more of said casks of the class first named, and fifteen more of the said casks of the class
643 secondly named, and have agreed to pay the said Gottfried his regular royalty or license fee for said pitching done and to be done, viz., fifteen cents per keg, one dollar per cask holding under thirty barrels, and one dollar and fifty cents per cask holding over thirty barrels for each and every pitching: Now, therefore, in consideration of five hundred and forty dollars to me in hand paid, the receipt whereof is hereby acknowledged, being the royalty due for said pitching done and to be done as aforesaid, I, the said Matthew Gottfried, hereby license and empower the said Jacobi, Coghlin & Co., their heirs, executors, administrators, and assigns, and any and all parties who may hereafter own or operate the brewery operated by them at Toledo, to use said invention described and claimed in

said patent until the expiration thereof in pitching the casks, barrels, kegs, and other vessels used at said brewery or belonging thereto.

And for the consideration aforesaid I hereby release and forever discharge the said Jacobi, Coghlin and Co. and each of them from all liability for the past infringement of said patent or use of said patented invention.

In witness whereof said parties have hereunto set their hands and seals this twenty-fifth day of September, 1880.

JACOBI, COGHLIN & CO. [SEAL.]
MATTHEW GOTTFRIED. [SEAL.]

STATE OF OHIO, }
Lucas County, } *ss:*

644 John Schneider, foreman of Jacobi, Coghlin & Co., being duly sworn, upon oath says that he has made careful investigation in reference to the number of kegs and casks heretofore pitched by said firm with a pitching machine and of the number it will be necessary for them to pitch with such machine between this and the 3d day of May, 1881, and that, according to his best information and belief, the numbers stated in the foregoing contract are in all respects substantially correct.

JOHN SCHNEIDER.

Sworn to before me and subscribed to in my presence this 25th day of September, 1880.

JOHN S. CARTER,
Notary Public, Lucas County, Ohio.

Agreement Between Gottfried and Philip Scheuermann.

This agreement, made this fourteenth day of September, 1880, between Matthew Gottfried, of Chicago, Illinois, of the first part, and Philip Scheuermann, of Hancock, Michigan, of the second part, witnesseth:

Whereas letters patent of the United States No. 42580 were issued to John F. T. Holbeck and Matthew Gottfried on the 3d day of May, 1864, for an improved mode of pitching barrels, of which the said party of the first part is now the sole owner; and whereas the party of the second part has been using and — desirous to continue
645 using the invention described and claimed in said letters patent in the pitching of his large casks, namely, casks holding under thirty barrels:

Now, therefore, it is hereby agreed between said parties as follows:

1st. The party of the first part hereby licenses and empowers the party of the second part, his heirs, executors, administrators, and assigns, and any and all parties who may hereafter own or operate the brewery now operated by him at Hancock, Michigan, to use the said invention described and claimed in said letters patent in pitching large casks, namely, casks holding thirty barrels or under, to the full end and term of said letters patent.

—. The party of the second part hereby agrees that he will use said invention in pitching all the large casks holding thirty barrels or under that he may have occasion to pitch in connection with the business of said brewery during the term of said patent, and also that he will make full and true returns to the party of the first part, under oath if required, on the first day of January and third day of May, 1881, of the number of such casks he has pitched or heated for pitching by the use of said patented invention, and will pay to the party of the first part, at the time of making such returns, one dollar for each and every cask pitched of the size mentioned, for each and every pitching thereof, as a royalty or license fee under said patent.

3d. Upon failure of the party of the second part to make
646 returns or pay royalties as herein provided, for thirty days after the days herein named, the party of the first part may terminate this license by serving a written notice to that effect upon the party of the second part, or by sending such notice to him by mail, but the party of the second part shall not thereby be discharged from any liability to the party of the first part for any license fees due at the time of the service of the said notice.

4th. Whereas the party of the second part now reports that he has heretofore pitched by the use of said patented invention one hundred and sixty casks holding under thirty barrels, for which he now pays one hundred and sixty dollars to the party of the first part, this being the amount of royalty due for past pitching at the rate above named: Now, therefore, in consideration of such payment, the party of the first part hereby discharges the party of the second part from any and all liability for the past infringement of said patent or use of said patented invention.

In witness whereof said parties have hereunto set their hands the day and year first above written.

MATTHEW GOTTFRIED.
PHIL. SHEUERMANN.

STATE OF MICHIGAN, *Houghton County,* } *ss:*

Phillip Scheuermann, of Hancock, Michigan, being duly sworn, upon oath says that he is operating a brewery, the annual pro-
647 duction of which now amounts to between three and four thousand barrels of beer; that he has used a pitching machine in pitching the large casks of said brewery since about the first day of October, 1876; that he has pitched, on the average, forty casks in each year since that time, so that in all he has pitched one hundred and sixty casks, holding under thirty barrels, by the use of said machine, and that he has never pitched any large casks holding over thirty barrels, or any kegs, half barrels, or barrels, with said machine.

PHIL. SCHEUERMANN.

Subscribed and sworn to before me this 17th day of September, 1880.

C. B. GRANT,
Notary Public, Houghton County, Mich.

Agreement Between Gottfried and Vinzing Horder.

This agreement, made this 24th day of September, 1880, between Matthew Gottfried, of Chicago, Illinois, of the first part, and Vinzing Horder, of Dowagiac, Michigan, of the second part, witnesseth:

That whereas letters patent of the United States No. 42580 were issued to J. F. T. Holbeck and Matthew Gottfried on the 3d day of May, 1864, for an improved mode of pitching barrels, of which the said Gottfried is now the sole owner; and whereas the party of the second part has been using and desires to continue the use of said patented invention:

648 Now, therefore, said parties have agreed and hereby agree as follows:

1st. The party of the first part hereby licenses and empowers the party of the second part, his heirs, executors, administrators, and assigns, and any and all parties who may hereafter own or operate the brewery now operated by him at Dowagiac, Michigan, to use said invention described and claimed in said letters patent in pitching the kegs and other vessels holding less than a barrel used at said brewery and belonging thereto during the continuation of said letters patent.

2d. The party of the second part hereby agrees to make full and true returns to the party of the first part upon the first day of January and third day of May, 1881, of all the kegs and other vessels smaller than a barrel which it may pitch or heat for pitching by the use of said patented invention.

3d. The party of the second part agrees to pay to the party of the first part, as a license fee under said patent, at the time of making such returns, the sum of fifteen (15) cents for each and every keg or other vessel holding less than a barrel for each and every time such vessels are pitched or heated for pitching by the use of said patented invention, and to do all the pitching with said patented invention necessary to be done in his business during the continuance of said letters patent.

649 4th. And whereas the party of the second part now reports that he has pitched, by the use of said invention, 400 kegs smaller than a barrel, for which he now pays the sum of sixty dollars, this being the amount due for past pitching at the rate of royalty above named: In consideration of such payment the party of the first part hereby forever releases and discharges the party of the second part from any and all liability for the past infringement of said patent or use of said patented invention.

In witness whereof the parties have hereunto set their hands the day and year first above written.

MATTHEW GOTTFRIED.
V. HORDER.

STATE OF MICHIGAN, } ss:
County of Cass, }

Vinzing Horder, being duly sworn, on oath deposes and says that he is engaged in the brewing business at Dowagiac, in the State

of Michigan; that he began to use a pitching machine in his business in the month of February, 1875, and that previous to that time he had used none; that he has pitched by the use of such machine not to exceed four hundred (400) kegs holding under one barrel, and that he has pitched no casks or vessels holding more than one barrel.

V. HORDER.

Subscribed and sworn to before me this 1st day of October, 1880.

FURMAN J. ATWELL,
Notary Public in and for Cass Co., Mich.

650 DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the instrument of writing executed by John F. T. Holbeck May 1st, 1879, and recorded in Liber W 23, page 324, of Transfers of Patents.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be affixed this 30th day of September, in the year of our Lord one thousand eight hundred and eighty-two, and of the Independence of the United States the one hundred and seventh.

E. M. MARBLE,
Commissioner.

Filed Nov. 16th, 1883.

NOBLE C. BUTLER, *Clerk.*

Liber W 23 page 324.

In consideration of one dollar and other good and valuable considerations to me in hand paid by Matthew Gottfried, of Chicago, Illinois, the receipt whereof is hereby acknowledged, I hereby sell and assign to the said Matthew Gottfried all my right, title, and interest in and to letters patent of the United States No. 42580, dated May 3d, 1864, granted to John F. T. Holbeck and Matthew
651 Gottfried, for an improved mode of pitching barrels, and in and to all claims of every kind for the past infringement of said letters patent and all rights of action whatever arising out of or connected with such infringements.

The same to be held, enjoyed, and collected by the said Matthew Gottfried to the full end of the term for which said letters patent are granted or may be extended as fully and entirely as the same would have been held and enjoyed or collected by me if this assignment and sale had not been made.

In testimony whereof I have hereunto set my hand and seal this first (1st) day of May, 1879.

JOHN F. T. HOLBECK. [SEAL.]

Witnesses:
O. P. INGERSOLL.

Recorded May 9th, 1879. Ex'd: E. A. M., E. McK.

COMPLAINANTS' EXHIBITS.

(Letter-head Banning and Banning.)

CHICAGO, *December 5th*, 1882.

Messrs. Wood and Boyd, Cincinnati, Ohio.

GENTLEMEN: We send inclosed a list of our cases in your court with amounts at which settlements should be made according to our lump figures. Of course, you understand that when necessary we will make reductions rather than fail in consummating settlements, but we do not now care to have this known. We also wish
652 that these figures should be kept quiet by Col. Weitzel, but, of course, they will furnish information on which he can talk to the brewers. However, as to all this, you and the Colonel know best; you know what we want and how to bring it about. Please keep us posted.

Yours respectfully,

BANNING AND BANNING.

Christ. Moerlien	Cincinnati	$12,500
John Hauck	"	6,500
Windisch, Muelhauser & Co.	"	9,000
Schaller & Gerke	"	4,000
John Kauffman	"	4,000
Foss & Schneider	"	4,000
Gambrinus Stock Co.	"	5,000
Weyand, Jung & H.	"	4,000
Gus. Webber	"	4,000
Hurancourt	"	2,500
Kinsinger, assignee, & Co.	"	1,500
Schmidt & Bro.	"	1,500
J. G. Sohn & Co.	"	1,500
John C. Bruckman	"	1,000
Mueller & Froelking	"	1,000
C. Schwind	Dayton	1,000
Engert & Dinkel	Springfield	1,200
Casper Engert	Hamilton	300
Leo Ebert	Ironton	500
Kimmel & Hoover	Circleville	200
		$65,200

653 COMPLAINANTS' EXHIBITS.

(Letter-head Parkinson & Parkinson).

CINCINNATI, *Jan'y 21st*, 1882.

Mess. Banning & Banning, attorneys-at-law, Honore building, Chicago, Ills.

GENTLEMEN: Yours of the 20th inst. rec'd. The engagement which we expected to take us away next week probably goes over for the present. We shall be here at least the first part of the week.

We have not mentioned the subject of settlement to our clients—indeed, have not seen any of them since the decision of the case—but may say that we do not think we should advise any settlement by any of them which would involve the payment of any tribute under your patent. We do not think any entries have been made in the cases thus far since the decision, and if you are to be here the first of the week will take no steps towards making them before you see us. They cannot be long delayed, however, as the cases here will be reached within a few weeks probably, and will have to be disposed of then. We wish the entries in Indianapolis made as soon as possible that we may know just what shape they are to take before making a further move here. There are objections to the plan for making the entries proposed by you, the discussion of which may as — be left until you are here.

Very truly, PARKINSON AND PARKINSON.

654 DEFENDANTS' EXHIBITS.

"Letter No. 1."

(Letter-head Banning & Banning.)

CHICAGO, *January* 18*th*, 1882.

Mess. Parkinson & Parkinson, Cincinnati, Ohio.

GENTLEMEN: The enclosed copy of a letter which we have just written to Judge Gresham explains itself. Can you join us in any of the suggestions mentioned — it? If we can possibly spare the time one of us will endeavor to come down and see you within a few days—probably some time next week. May we ask as a personal favor that you will not allow the decision to be made public until we can see you, as suggested above? We congratulate you on your victory.

Yours very truly, BANNING AND BANNING.

DEFENDANTS' EXHIBITS.

"Letter No. 2."

CHICAGO, *January* 20*th*, 1882.

Mess. Parkinson & Parkinson, Cincinnati, Ohio.

DEAR SIRS: As we wrote you yesterday, we are so engaged this week that we cannot come down to meet you to-morrow, as we should be glad to do. We now write to ask you, personally and confidentially, whether you can advised your clients to make a reasonable settlement if we will "come down." It seems to us that in any view there is sufficient doubt as to the final result to make such a course proper, and if you say that a suggestion of settlement from our side will receive due and proper consideration we now think we will make —. It is not at all certain that Judges McCrary and Nel-
655 son will follow Judge Gresham in our Minnesota cases. On the contrary, we are very hopeful, not to say confident, that they will decide in our favor. In addition to this no one can say how you will come out in these very cases if we apply for a rehear-

ing and get Drummond or Blodgett to sit with Gresham at the arguments of our petition. At present we expect to file such a petition, but may yet conclude not to do so. Then, too, we think there is at least a possibility of Gresham's decision being reversed in the Supreme Court. We simply mention these considerations that you may have them in mind in considering our suggestion made above, and not that we expect them to have any controlling or special influence in your determination as to such suggestions. If you could give us an answer before you leave the city it will be considered a favor. Please do not inform your clients of this suggestion until we make up our minds whether we want you to do so or not after receiving your answer.

Yours very truly, BANNING AND BANNING.

DEFENDANTS' EXHIBIT.

"Letter No. 3."

(Letter-head Parkinson & Parkinson.)

CINCINNATI, *December 28th*, 1882.

Mess. Banning and Banning, Honore building, Chicago, Ills.

GENTLEMEN: Since receiving yours of 9th inst. we have made many efforts to see Mr. Jordan, but he has been engaged in
656 court continuously through the entire week, so that it was only late Saturday night that we were able to have a word with him. We presume it is hardly necessary to say that we should neither of us advise our clients to accept any such proposition as that made in your letter or any approach to it. We will, however, submit to our clients, with such recommendation as seems to us proper, either this or any better proposition you wish to make them.

As it takes some time to get them together for the purpose of laying any such matter before them, we think it better for you to make at once the best proposition you have to make, and make it in such form that it can be laid before them for definite action.

Your letter of 9th inst., intimating as it does that it is not intended to state your ultimatum, does not seem to present any proposition in such form as to lay the foundation for definite action. We notice that some person acting, as we suppose, in your behalf has already laid before the brewers a statement purporting to show the amount of judgment entered against them in all the cases here. Whatever proposition you have to make we hope you will make immediately, as we wish the account pressed forward without delay in the event there is no settlement. You will understand, as we said to you when here, that our consent to submit any proposition you wish to make is not to be understood as implying that we
657 recommend a settlement. We do not, but are willing to lay the matter before our clients and let them take such action as they think best.

Yours very truly, PARKINSON AND PARKINSON.

DEFENDANTS' EXHIBITS.

"Letter No. 4."

(Letter-head Parkinson and Parkinson.)

CINCINNATI, *January 20th*, 1883.

Mess. Banning and Banning, Honore building, Chicago, Ills.

GENTLEMEN: We have been using all diligence possible on our part to obtain a conclusive expression from the brewers relative to your proposition for settlement, but have only received their answer this moment. They decline that proposition and instruct us to push the cases forward as rapidly as possible. We desire to have the proceedings before the master expedited, and will be ready to attend before the master as soon as may be.

Yours very truly, PARKINSON AND PARKINSON.

Statement.

Christ. Moerlein	Cincinnati		$12,500
John Hauck	"		6,500
Windisch, Muelhauser & Co.	"		9,000
Schaller & Gerke	"		4,000
John Kauffman	"		4,000
Foss & Schneider	"		4,000
Gambrinus Stock Co.	"		5,000
Weyand, Jung & H.	"		4,000
Gus. Webber	"		4,000
658 Herancourt	"		2,500
Kinsinger, assignee, & Co.,	"		1,500
Schmidt & Bro.	"		1,500
J. G. Sohn & Co.	"		1,500
John C. Bruckman	"		1,000
Mueller & Froelking	"		1,000
C. Schwind	Dayton		1,000
Engert & Dinkel	Springfield		1,200
Casper Engert	Hamilton		300
Lee Enbert	Ironton		500
Kimmel & Hoover	Circleville		200
			$65,200

Stipulation.

The following stipulation was filed in the office of the clerk of said court on the 20th day of January, 1885:

Circuit Court of the United States, District of Indiana.

MATTHEW GOTTFRIED
vs.
CRESCENT BREWING COMPANY. } In Equity.

SAME
vs.
RACHAEL F. GAFF, Executrix of James W. Gaff, Deceased, and SAMUEL D. LANGTREE. } In Equity.

SAME
vs.
EUGENE HACK and ANTON SIMON, Partners, &c. } In Equity.

659 The record and evidence in the above-entitled causes being in all respects the same, except as to the pleadings and special matters covered by stipulations or orders of court:

It is hereby stipulated and agreed that, in making up a transcript of the record for the Supreme Court, the clerk shall simply copy and certify up the evidence in the first of the above-entitled causes and the pleadings, orders of court, stipulations, appeal bonds, and other special matters in the other two, making his certificate properly conform to this stipulation, and that the evidence so certified in the first of said causes shall be used in the hearing of all of said causes in the Supreme Court with like effect as if separately certified as a part of the transcript of each of said causes.

BANNING & BANNING,
Solicitors for Complainants.
PARKINSON & PARKINSON,
Solicitors for Defendants.

660 UNITED STATES OF AMERICA, } *ss:*
District of Indiana,

I, Noble C. Butler, clerk of the circuit court of the United States within and for said district, do hereby certify that the above and foregoing is a full, true, and complete transcript of the record and testimony in the cause of Matthew Gottfried against The Crescent Brewing Company as fully as the same remain upon the files and records now in my office.

Witness my hand and the seal of said court, at Indianapolis, in said district, this 11th day of April, A. D. 1885.

[Seal Circuit Court of the United States, District of Indiana.]

NOBLE C. BUTLER, *Clerk.*

Endorsed on cover: Indiana C. C. U. S. No. 294. The Crescent Brewing Company, appellant, *vs.* Matthew Gottfried. Filed September 19, 1885.

Supreme Court of the United States.

THE CRESCENT BREWING COMPANY, Appellant,
vs.
MATTHEW GOTTFRIED. } No. 294.

RACHEL S. GAFF, Executrix of James W. Gaff, Deceased, and SAMUEL D. LANGTREE, Appellants,
v.
MATTHEW GOTTFRIED. } No. 295.

EUGENE HACK and ANTON SIMON, Appellants,
vs.
MATTHEW GOTTFRIED. } No. 296.

It is hereby stipulated that the master's record in the above-entitled cause contained, immediately following cross-question 178 of the deposition of Gottfried, on page 234 of the printed transcript in the Supreme Court, the following, which has been inadvertently omitted from the transcript, and that the same shall be printed and inserted with like effect as if included in said transcript, to wit:

"By Mr. BANNING: The paper shown to the witness is in the handwriting of our clerk and was prepared by him, under our directions, for the use of Col. Weitzel, of this city, who, after decrees were entered in the various cases here, undertook to negotiate a settlement for us, and the names on the paper are the names of the defendants against whom decrees had been entered, and the amounts opposite the names, respectively, are the amounts at which we instructed him to open negotiations for a settlement. I was afterwards, when attending before the master, in this city, on the 30th day of January and subsequent days, shown a German paper in which these names and amounts appear. Prior to that time I had not known or heard of such publication, and if counsel for defendants desires I am perfectly willing that he may use that or any other publication he may be able to discover relating to the subject, and will waive formal proof of the German paper mentioned or others published in this city relating to the same subject.

By Mr. PARKINSON: Mr. Banning, for the purpose of completing the statement made by him, is requested to state whether he advised or caused to be advised in any way any of the attorneys representing defendants in these causes of the negotiations being carried on by Mr. Weitzel or of the fact that he was employed to carry on such negotiations, or that such a statement was to be laid before the brewers, and also whether the German publication referred to was one in which it was stated that judgments had been entered against the brewers named in this paper for the amounts, respectively, named,

and that the statement had been brought before the brewers in their meeting, and that by prompt payment or settlement they might get a discount, and whether, so far as he knows, this publication was made only in German papers.

By Mr. BANNING: Complainants' counsel states that he did not notify Mr. Parkinson of Col. Weitzel's employment to negotiate a settlement, as he had repeatedly avowed his determination to prevent or frustrate any settlement unless it would be for greatly smaller amounts than others had paid, as some of his letters which we now have on file will show, nor were any of the other counsel representing defendants informed of Col. Weitzel's employment. We did not advise defendants' counsel that such a statement was to be laid before the brewers as that published in the German paper, as we ourselves were not advised that there had been any publication stating that decrees had been entered against the brewers for the amounts named or for any other amounts, nor did we advise defendants' counsel that the paper suggesting amounts on which negotiations for settlement would be opened was to be laid before the brewers severally or together. Counsel further states that he has never read the German publication referred to, but he has been informed that it contained the statement that decrees or judgments for the various amounts named in the paper had been entered against the several defendants named, and that such publication only appeared in the German papers in this city. Counsel further states that he is entirely willing that all the correspondence that has ever passed between complainants' and defendants' counsel may be used without further proof of the genuineness of the various letters further than the signatures and letter-heads of the various letters themselves shall impart that they were the letters of the various counsel. Col. Weitzel was instructed to make liberal deductions from the amounts named in case any or all desired to settle. The amounts named in the paper furnished to Col. Weitzel were at the regular rates which Mr. Gottfried had adopted for gross settlements, namely, $100 per thousand barrels of beer sold, and the amounts were computed on the amount of beer sold by the various brewers before the expiration of the patent and before any evidence had been taken or information furnished to complainants' counsel showing the exact amount of work done with the infringing machines. The rate of $100 per 1,000 barrels of beer sold had been paid by a great many brewers in lump settlements without reporting the extent of their use of the machine, although in the case of a compromise of a number of suits together this rate, as appears from Mr. Gottfried's testimony, had been varied or departed from as the circumstances of such settlements seemed to suggest or require, and had also been departed from in other cases where the parties had only been in business or used the machine a short time. In all those lump settlements weight was given to the varying facts in each case.

Mr. Parkinson requests Mr. Banning to state whether defendants were advised by him or his associate of the fact that Mr. Weitzel was acting in behalf of complainants in urging settlement rather

than in behalf of the brewers; also whether he means to be understood as saying that defendants used any such expression as 'frustrate any settlement' in any communication between them, and whether, while stating that they should not advise any settlement other than on a basis that would be more economical to defendants than fighting this controversy through on the theory that they would finally obtain a judgment against this patent in the Supreme Court, they did not say that any proposition complainants chose to make would be submitted to defendants with such advice thereupon as to defendants' attorneys seemed proper.

Mr. Banning states that they gave the defendants no information whatever and had no communication with them whatever about Col. Weitzel's employment. What he may have told them we know nothing of.

I do not think that in any of Mr. Parkinson's letters he used the word 'frustrate' or said that he would 'frustrate any settlement.' I have not meant to give his words, but merely the tone and spirit of his letters as we understood them. Of course, Mr. Parkinson said that he would submit to the brewers any proposition we might make. In one of his letters, as I remember it (for I do not have the correspondence before me), Mr. Parkinson said, in substance, no settlement could ever be made that involved the payment of any tribute under this patent. As I have before said, I am perfectly willing that Mr. Parkinson should refer to or use before the master or the court any or all of our letters touching the subject of settlement or anything else, and I now give him that permission, and I only ask that he will give us like permission with reference to his own letters.

Mr. Parkinson states that he has no objection to the offer in evidence of any correspondence in which he has participated, but, to save burdening the record unnecessarily, requests Mr. Banning to state whether the expression about paying tribute under the patent was not in a letter written just after Judge Gresham had decided the patent invalid and before the publication of his first opinion and in reply to a proposition to defendants' attorneys to suppress that opinion and allow decrees in the various cases in which they represented defendants to be entered with findings for complainants coupled with intimations that it could be made to the advantage of attorneys to do so, and which appears in part by the letters of Banning & Banning, dated January 18, 1882, and January 20, 1882, here produced and marked Defendants' Exhibits 'Letters 1 & 2;' and whether the two letters here produced are not copies of the only letters received from defendants' attorneys relative to any proposition for settlement since the date of the decrees herein.

Mr. BANNING: I believe the expression referred to was used in a letter written by Mr. Parkinson after Judge Gresham's first decision, and while there were two decisions in favor of the patent and one against it. As to what was contained in the letter to which it was a reply I know nothing, as it was written during my absence in New York. The letter, however, will speak for itself. I will, however, say that it would, of course, have been impossible to induce Judge

Gresham to change his opinion unless he were perfectly satisfied, for the most proper and convincing reasons, that the decision should have been in favor of the patent. We were so thoroughly convinced in our own minds of the validity of the patent and our ability to satisfy Judge Gresham of its validity, as we afterwards did on the reargument, that we were anxious that his opinion should not be published, which would place him in the position of changing his opinion before the whole bar of the country, until he had determined on the reargument whether he wanted his opinion to go forth to the world as originally given. In a case before Judge Drummond, under another patent, where the opinion was in our favor and where he learned that a rehearing was to be asked, he requested us not to have the first opinion published until after the rehearing, and it was not published until after some two years from the time it was first announced and until after he had decided the rehearing, and we understand that this is a courtesy towards the judge that is universally practiced.

The copies of the letters shown me, dated December 18, 1882, and January 20, 1883, appear to be correct copies, as I have no doubt they are, of letters written by Mr. Parkinson to ourselves, though I do not have the originals before me. They may be taken as true copies unless we correct them when we examine the originals.

Counsel for defendants offer in evidence the letters last above referred to, and they are marked Defendants' Exhibits 'Letters 3 & 4;' also the statement referred to in question 178, and it is marked Defendants' Exhibit 'Statement.'

It is further admitted that the publication from the German paper of Cincinnati, referred to in the foregoing statements, was, as translated under the supervision of the master and in the original master's record, as follows:

'The Patent Claims.'

We reported at the time that the firm of Godfried and Holbeck had sued the brewers on account of an infringement of their patent on a pitching machine, and that Judge Baxter, of the U. S. court, had decided against the brewers and had appointed Mr. Harper as 'master commissioner' to assess the damages. Mr. Harper has computed the damages and his report was made known in yesterday's meeting. According to this report, the defendants whose names follow should pay the sums set opposite their names:

Chris. Moerlein Brewing Co.	$12,500
Windisch, Muhlhauser & Bro.	9,000
John Hauck Brewing Co.	6,500
Gambrinus Stock Co.	5,000
Schaller & Gerke	4,000
John Kaufmann	4,000
Foss & Schneider	4,000
Weyand, Jung & Hellman	4,000
Geo. Weber	4,000

L. Herancourt	$2,500
Chris. Kinsinger (assignee)	1,500
Brothers Schmidt	1,500
J. G. Sohn & Comp.	1,500
John C. Bruckmann	1,000
Mueller & Froelking	1,000
C. Schwind, of Dayton, O.	1,000
Engert & Drinkel, of Springfield, Ohio	1,200
Leo. Ebert, of Ironton, O.	500
Casp. Engert, of Hamilton, O.	300
Krummer & Hoover, of Circleville, O.	200
Total	65,200

The brewers resolved to act in company with those of Louisville and Indianapolis who have been condemned to the payment of damages and appeal to the Supreme Court. On the recommendation of their attorneys here, Brothers Parkinson, they resolved to engage Mr. George Harding, of Philadelphia, who is recognized as the ablest att'y in patent litigation in the United States. The Brothers Parkinson declared that they would then be sure of success."

Witness my hand this 12th day of April, 1888.

ROB'T H. PARKINSON,
Of Counsel for Appellants.
THOMAS A. BANNING,
Of Counsel for Appellees.

[Endorsed:] Supreme Court U. S. 1887, Oct'r term. No. 294. The Crescent Brewing Co., appl., *vs.* Matthew Gottfried. Stipulation of counsel and addition to record.

[Stamped:] Office Supreme Court U. S. Filed April 17, 1888. James H. McKenney, clerk.

Stipulation.

United States Supreme Court.

CRESCENT BREWING CO. *vs.* MATTHEW GOTTFRIED.	No. 294.
RACHEL S. GAFF, Etc., *vs.* SAME.	No. 295.
HACK & SIMON *vs.* SAME.	No. 296.

It is hereby stipulated that the following opinion was filed by his honor Judge Gresham after the first hearing in the above-entitled cases and before the opinion reported on page 15 of the transcript of the first of the above-entitled cases and should have been included in said transcript, to wit:

GRESHAM, *D. J.:*

Letters patent No. 42580 were issued to J. F. T. Holbeck and M. Gottfried May 3, 1864, for a new and improved mode of pitching barrels. This suit was brought by the plaintiff as assignee and owner of the patent against the defendant for infringement and for an injunction and account. The invention consists in preparing casks for receiving pitch or other melted substance which will render them impervious by introducing into the casks a blast of highly-heated air. The mechanism described in the patent consists of a furnace with a vertical central opening and grate bars near the bottom over an ash pit. A rotary fan forces the air through a pipe into the ash pit and up through the fire on the grates, the heated air and products of combustion being thence driven into the cask through a pipe leading from the top and near the top of the furnace or fire chamber. When the cask is sufficiently heated it is removed and rolled until the interior surface is thoroughly coated with the melted pitch.

The defendant's device need not be described, as it is not denied that it is substantially the same in construction and mode of operation as the complainant's. The defense is that the patentees were not the original and first inventors of the alleged improvement; that the same had been described in certain English letters patent and foreign printed publications, and had been in public use in this country prior to the supposed invention or discovery.

It was held by Judge Blodgett, in Gottfried *v.* Fortune, 13 O. G., 1128, that the plaintiff's invention was not anticipated by the Davison & Symington patent for a method of cleansing, purifying, and sweetening casks, vats, and other vessels; and in a number of later

cases decided by Judge Dyer and reported in 17 O. G., 675, it was held that the plaintiff's invention was anticipated by neither the Davison & Symington patent; the Cochran & Golloway patent for a machine for removing the inconvenience of smoke or gases generated in furnaces or fire-places by the combustion of coal or other inflammable substances, and in certain cases for directing the heat and applying such smoke or gases to various useful purposes; the Boville patent, which consisted in part of an improved mode of heating a blast by blowing the same partly through and partly over the fire in a retort or fire-proof chamber, and thence through suitable pipes into a smelting furnace; the Neilson patent for an improved application of air to produce heat in fires in forges and furnaces; nor the Devaux patent for certain improvements in smelting iron, stone, or iron ore by forcing a blast of pure air through a fire in an enclosed apparatus, and thence driving forward the products of combustion through a pipe into a smelting furnace containing the ore. In these cases Judge Dyer also held that the Beck machine for heating the interior of the beer casks and barrels preparatory to pitching them was simply an imperfect and abandoned experiment, and could not, therefore, prevail against the plaintiff's invention.

Thus far the record in this case presents questions which were ruled on by the learned judges in Illinois and Wisconsin.

The Seibel machine is constructed of strong sheet iron, about eighteen inches high, five or six inches wide, and three feet long. It rests upon four small feet an inch long. A long iron handle is attached to the top of one end, and a perforated pipe runs through and near the bottom of the machine. The machine, containing ignited charcoal, is inserted in the cask through the man-hole. The nozzle of a blacksmith's bellows is then inserted into the perforated pipe through an opening in one end of the machine, the bellows is manipulated, and the interior of the cask is heated with the products of combustion or gases until the hard pitch or other suitable substance previously placed in the cask is sufficiently melted for practical use. The evidence shows that this machine was constructed and used by Conrad Seibel, at St. Louis, as early as 1856, where it was generally used by brewers in pitching casks; that it was used elsewhere in the United States for the same purpose, and that it is yet so used. The defendant also relies upon an essay entitled the "Newest Discoveries," published in Germany, in 1861, in a paper called "Der Bier Brauer," as anticipating the plaintiff's invention. This essay discusses the different methods of heating barrels and casks and rendering them impervious. After giving his views at some length on the subject of drying casks or vessels by warm or heated air the writer concludes as follows:

"In case of superfluous water or steam power a fan being at command can be attached and thus blow the air through the vessels. Hereby the fan draws the air out of a channel which connects with the somewhat roomy ash place of a small pit or shaft furnace which is fed with coke or charcoal whenever warm air is desired. The ash place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with cold air."

The defendant introduced a model in connection with this publication which represents a grate in a furnace over an ash pit. An exhaust passage connects a rotary fan with the ash pit, and a discharge pipe from the fan is provided with one or more nozzles which introduce the heated air and gaseous products into as many casks. In the side of the ash pit is a cold-air inlet, which may be wholly or partially closed by a small door. The fan is adjusted between the furnace and the casks, and thus draws the air by suction from the outside through the fire and the exhaust chamber and forces it forward into the casks. I think from the evidence a skilful mechanic familiar with the art and this publication before him could readily have constructed this model. In this mechanism the fan is between the furnace and the casks and draws the air through the fire by suction and then drives the heated blasts or products of combustion forward into the casks, while the plaintiff's mechanism has the furnace between the fan and the casks and forces the cold air into the fire and the heated blast into the casks, the difference being in mechanical arrangement only and not in principle or effect.

The Cochrane & Slate patent is also relied upon here for the first time as anticipating the plaintiff's invention. This English patent was issued on the third day of January, 1850, and provides for the application of a hot deoxygenated blast for heating and drying moulds for castings instead of casks. The device consists of an external cylinder of sheet metal, having an interior cylinder fixed within it, the lower part of which is perforated. A fire-place made of fire-bricks and supplied with small coke is constructed in a chamber or furnace resting on or over the cylinder when in use. The furnace contains outlets for the escape of the products of combustion. A mould in a mould box is inserted within the inner cylinder, and the drying apparatus is placed in position over the cylinders. The blast is then forced from the outside through a pipe into the fire chamber through or partly through the fire, and the heated blast and gases are thence driven down through and around the mold, which is quickly dried. The hot blasts or products of combustion which are here used to disperse moisture and dry moulds is utilized by the plaintiff in heating the interior surface of beer casks. The subsequent application of pitch or other resinous substances is no part of the plaintiff's invention.

It is not claimed that Holbeck & Gottfried were the first to prepare the interior of barrels and casks for pitching by the application of heat, but it is insisted that their invention was novel in the character of their hot blast, it being deprived of oxygen, the use to which it was applied, and the manner in which the application was made. The first claim reads:

"The application of heated air under blast to the interior of casks by means substantially as described and for the purposes set forth."

If the patentees deemed it important to use a hot blast from which the oxygen had been consumed, and it was their intention to cover such a blast, that intention was not clearly expressed in drafting the specifications and claims. If they deemed a non-combustible hot blast a part of their invention why did they not cover it in plain

terms in their patent? But, construing their patent as providing for such a blast, the evidence shows that its properties had been long known, and that such a blast had been actually used in heating beer casks preparatory to pitching them. The plaintiff's arrangement of a rotary fan, an ash pit, fire grates, fire chamber, and connecting and discharge pipes for forcing air from the outside into actual contact with the fire and then driving the hot, decomposed blast into casks was not novel. The German publication described a mechanism substantially like the plaintiff's construction, mode of operation, and effect. There was no invention in the manner in which the patentees applied the decomposed blast to the interior surface of casks, nor am I able to see that they were entitled to a patent for the use which they made of the hot blast. The patentees took old and well-known mechanical contrivances for accomplishing useful results and applied them to a new purpose. In this there was nothing to support a claim for a patentable invention or process. The various instrumentalities which the patentees employed in their use of the hot blast operated just as they had previously operated when the same was used for other purposes. They employed old mechanism without producing a new effect. It may be true that this device produced a better result, but that, of itself, was not enough to sustain the patent.

In delivering the opinion of the Court in Roberts *v.* Ryer, 91 U. S., 150, Chief Justice Waite says:

"It is no new invention to use an old machine for a new purpose. The inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not."

And says Justice Story in Bean *v.* Smallwood, 2 Story, 408:

"The thing itself which is patented must be new, and not the mere application of it to a new purpose or object."

The plaintiff's patent was not for the application of an old machine to a new use. The interior of molds and other receptacles had been previously heated by a hot blast, and the patentees used a blast of the same character to heat the interior of beer casks. No new application of a natural force or element in nature was pointed out or described in the patent.

This case is different in some essential respects from the cases which were decided by Judges Blodgett and Dyer.

The bill is dismissed for want of equity.

Also that the following opinion was filed by his honor Judge Woods after the hearing upon exceptions to master's report:

"Woods, *J.*:

The exceptions filed are needlessly numerous and prolix. The question to be considered is whether the damages awarded the plaintiff for the infringement of his patent are excessive. In so far as the master has found that the proof showed an established royalty or license fee, within the meaning of Seymour *v.* McCormick, 16 How., 485, I think he erred. I am still of the opinion declared in National Carbrake Shoe Co. *v.* Terre Haute, etc., Co., 19 Fed. Rep.,

514, and Wescott *v.* Rude, *id.*, 830, that evidence of settlements for infringements is not competent to show a license fee or royalty; and, upon the same principle, a license (for the future) given wholly or partially in consideration of a settlement for infringements is not admissible in evidence against a stranger. There are other minor points concerning which I find it unnecessary to form an opinion. Like those stated, they are eliminated from the case by the final position upon which the master rests his conclusion. 'There is a square conflict,' says the report, 'in the evidence of the plaintiff and defendant as to the value of the invention. * * * In my judgment the evidence of the complainant on this point is entitled to the greater weight, and, irrespective of any supposed licensee fee or royalty, I regard fifteen cents per keg and one dollar and fifty cents per cask for each pitching a fair and reasonable rate for estimating complainant's damages.' There is nothing in the record to justify a disturbance of this conclusion, although the contrary evidence, standing by itself, is undeniably strong.

It is shown that soon after the issue of the patent the patented machine was offered to the public, and in some instances sold at prices varying from $100 at first to $80, $60, and $40 at later dates, and that in a contract between the patentees, whereby one of them was to manufacture and sell the machines, it was stipulated that the other should be entitled to a royalty of $10 only upon each machine. While I am of opinion that these facts constitute competent evidence against the plaintiff in respect to the value of the invention, being in the nature of admissions, I do not agree with counsel for defendants that the plaintiff is *concluded* thereby, since sales were not made in such numbers and at such uniform prices as to constitute an established license fee.

Exceptions overruled, and judgment on report for the several amounts therein named for the respective cases."

It is further stipulated that these opinions and this stipulation may be printed by the clerk of the Supreme Court and inserted in the record in the first of the above-entitled cases, and may be referred to in that and the two remaining cases with the same effect as if duly certified with the transcript thereof, and the clerk is requested to print the same so soon as may be.

ROB'T H. PARKINSON,
Of Counsel for Appellant.
EPHRAIM BANNING,
THOMAS A. BANNING,
Counsel for Appellee.

[Endorsed:] Sup. Court U. S. 1887, Oct'r term. No. 294. The Crescent Brewing Company, app't, *vs.* Matthew Gottfried. Stipulation of counsel & addition to record.

[Stamped:] Office Supreme Court U. S. Filed Apr. 6, 1888. James H. McKenney, clerk.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1887.

No. 205. 36

RACHEL S. GAFF, EXECUTRIX OF JAMES W. GAFF, DECEASED, AND SAMUEL D. LANGTREE, APPELLANTS,

vs.

MATTHEW GOTTFRIED.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF INDIANA.

FILED SEPTEMBER 19, 1885.

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JUDD & DETWEILER, PRINTERS, WASHINGTON, AUGUST 15, 1887.

1 Pleas of the circuit court of the United States for the district of Indiana, begun and holden at the United States courthouse, in the city of Indianapolis, on the first Tuesday of November, in the year of our Lord one thousand eight hundred and eighty-four, before the Honorable William A. Woods, judge of the district court of the United States for the district of Indiana and *ex officio* judge of said circuit court.

MATTHEW GOTTFRIED *v.* RACHAEL S. GAFF, Executrix of the Last Will and Testament of James W. Gaff, Deceased, and Samuel D. Langtree.	6454.	Chancery.

Be it remembered that heretofore, to wit, at the November term, 1880, of said court, on the 23d day of March, 1881, before the Honorable Walter Q. Gresham, one of the judges of said court, the following proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Banning and Banning, and files his bill herein in the words following, to wit:

To the honorable the judges of the circuit court of the United States for the district of Indiana:

2 Matthew Gottfried, of the city of Chicago, in the State of Illinois, and a citizen of the State of Illinois, brings this his bill of complaint against Rachael S. Gaff, sole executrix of the last will and testament of James W. Gaff, deceased, of the city of Cincinnati, in the State of Ohio, and a citizen of the State of Ohio, and Samuel D. Langtree, surviving partner of J. W. Gaff & Co., of the city of Aurora, in the State of Indiana, and a citizen of the State of Indiana, defendants; and thereupon your orator complains and says—

I. That prior to the third day of May, 1864, your orator and one John F. T. Holbeck were the original and first inventors and discoverers of a new and useful improvement in pitching barrels, not known or used by others before their invention thereof, and which had not at the time of their application for a patent therefor been in public use or on sale for more than two years, as your orator verily believes, and that upon due application letters patent of the United States No. 42580 in due form were issued to your orator and the said Holbeck, dated the said third day of May, 1864, granting to to them, their heirs, administrators, or assigns, for the term of seventeen years, the full and exclusive right of making, using, and vending to others to be used, the said invention, as by reference to the said letters patent here in court to be produced, and a copy of which is hereto attached and make part of this bill, will more fully appear.

II. That by virtue of the premises and written assignments given for good and valuable considerations and duly executed and
3 recorded your orator became and now is the sole and exclusive owner of the entire right, title, and interest in and to said letters patent and in and to all claims for damages occasioned by infringements thereof, and for gains, profits, savings, and advan-

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MATTHEW GOTTFRIED
v.
RACH[illegible]AFF, Executrix of the Last Will and [illegible]ment of James W. Gaff, Deceased, and Samuel D. Langtree. } 6454. Chancery.

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Comes now the complainant, by Banning and Banning, and files his bill herein in the words following, to wit:

To the honorable the judges of the circuit court of the United States for the district of Indiana:

2 Matthew Gottfried, of the city of Chicago, in the State of Illinois, and a citizen of the State of Illinois, brings this his bill of complaint against Rachael S. Gaff, sole executrix of the last will and testament of James W. Gaff, deceased, of the city of Cincinnati, in the State of Ohio, and a citizen of the State of Ohio, and Samuel D. Langtree, surviving partner of J. W. Gaff & Co., of the city of Aurora, in the State of Indiana, and a citizen of the State of Indiana, defendants; and thereupon your orator complains and says—

I. That prior to the third day of May, 1864, your orator and one John F. T. Holbeck were the original and first inventors and discoverers of a new and useful improvement in pitching barrels, not known or used by others before their invention thereof, and which had not at the time of their application for a patent therefor been in public use or on sale for more than two years, as your orator verily believes, and that upon due application letters patent of the United States No. 42580 in due form were issued to your orator and the said Holbeck, dated the said third day of May, 1864, granting to to them, their heirs, administrators, or assigns, for the term of seventeen years, the full and exclusive right of making, using, and vending to others to be used, the said invention, as by reference to the said letters patent here in court to be produced, and a copy of which is hereto attached and make part of this bill, will more fully appear.

II. That by virtue of the premises and written assignments given for good and valuable considerations and duly executed and
3 recorded your orator became and now is the sole and exclusive owner of the entire right, title, and interest in and to said letters patent and in and to all claims for damages occasioned by infringements thereof, and for gains, profits, savings, and advan-

tages made or received by others by reason of such infringements, and is by law entitled to sue for and receive said claims to his own use.

III. That on the fourth day of October, 1877, your orator and the said Holbeck filed their bills of complaint against Frank Bartholomae and Bernard Roesing, Peter Fortune and John Fortune, and Peter Schoenhofen, respectively, in the circuit court of the United States for the northern district of Illinois, setting forth the said letters patent and the infringement thereof by said defendants and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills, denying, among other things, the validity of said letters patent, and setting up that your orator and the said Holbeck were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and publicly used by others in this country long prior to the date of their invention; that, issues being joined and proofs taken at length and for a long time, all of said causes were brought to a hearing on their merits on the eighth day of May, 1878, before his honor Judge Henry W. Blodgett, and were argued before him by the counsel for your orator and said parties, respectively, and were afterwards held under advisement by said judge until the 24 day of June, 1878, when judgment was duly pronounced, and that said court then decided, among other things, that the said letters patents were good and valid in law, and that your orator and the said Holbeck were the original and first inventors and discoverers of said invention patented as aforesaid, and by decrees entered of record in two of said causes (a special arrangement being made by counsel as to the other) perpetually enjoined the said defendants, Bartholomae and Roesing and Fortune Bros., from using the said patented invention, and ordered accounts to be taken of the profits and damages
4 due by reason of their infringements already committed; that on the 6th day of January, 1879, on the application of the defendants, said decrees were set aside and all of said defendants allowed to make further defense, and that amended answers were afterwards filed, setting up additional defenses, and new proofs taken at length and for a long time in each of said causes.

That on the 3d day of June, 1878, your orator and the said Holbeck filed their bill of complaint against Valentine Blatz, and on the 9th day of August, 1878, their bills of complaint against the Philip Best Brewing Company, the Joseph Schlitz Brewing Company, and Jacob Obermann and Max. Fueger, respectively, in the circuit court of the United States for the eastern district of Wisconsin, setting forth the said letters patent and the infringement thereof by the said defendants and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills, denying, among other things, the validity of said letters patent, and setting up that your orator and the said Holbeck were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and used by others in this country long

5 prior to the date of their invention; that, issues being joined and proofs taken at length and for a long time, all of said seven causes above named were brought to a hearing on their merits on the 12th day of June, 1879, and were heard and argued together before his honor Judge Charles E. Dyer; that the said hearing and arguments were very full and exhaustive and lasted five days; that said causes were afterwards held under advisement by said judge until the first day of December, 1879, when judgment was duly pronounced, and that said court, in a very long and full opinion, then decided, among other things, that said letters patent were good and valid in law, and that your orator and the said Holbeck were the original and first inventors and discoverers of the said invention patented as aforesaid, and by decrees entered of record perpetually enjoined all of said defendants from using the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed, all of which will more fully appear by a reference to the opinions of said judges and the record of the proceedings in said suits, the first of which opinion is published in vol. 13 of the Official Gazette of the Patent Office, page 1128, and the second in vol. 17 of said Official Gazette, page 675.

That after said decisions the said The Philip Best Brewing Company, The Joseph Schlitz Brewing Company, Valentine Blatz and Jacob Obermann and Max Fueger, acquiescing therein and in the validity of said patent, settled with your orator for their past infringement and purchased licenses for the future use of said patented invention, and paid your orator therefor a large sum of money, amounting to many thousands of dollars, and that thereupon final decrees were entered in the suits against them, respectively, from which no appeals have ever been taken.

IV. That since the granting of said letters patent, and at divers times and occasions between that time and the filing of this your orator's bill, the said Samuel D. Langtree and James W. Gaff, as copartners under the firm name of J. W. Gaff & Co., in the lifetime of the said Gaff, and the said Samuel D. Langtree, as surviving partner of said firm, and Rachel S. Gaff, as executrix of the last will of the said James W. Gaff, deceased, since his death, well knowing the premises and in infringement of said letters patent, and in violation of the exclusive rights of your orator thereunder, and without the

6 license of your orator or the said Holbeck or any one ever interested in said patent, at Aurora, Indiana, to wit, at the district aforesaid, have used and still continue to use the said invention patented as aforesaid, whereby great injury has resulted to your orator and great gains and profits have accrued to the said defendants, the full amount of which is unknown to your orator, but which in equity belongs to him and should be accounted for by the said defendants and paid over to your orator as the avails of his exclusive rights aforesaid and the profits and gains which he would have derived therefrom but for the unlawful acts of the said defendants.

V. That your orator has no adequate remedy in the premises, save

in a court of equity, where matters of this nature are properly cognizable.

Wherefore your orator prays—

I. That the defendants may answer the premises and may fully disclose the number of pitching machines they are using and have used, how long they or the said firm of J. W. Gaff & Co. have used such machines, the names thereof by whom the same were manufactured and by whom and when patented, and whether in such machines the air is heated by its being forced through or in contact with the fire on its passage from the blower to the cask or barrel to be pitched; and, if not, how it is heated, stating fully the
7 construction and operation of the machine.

2 That the defendants, their agents, attorneys, servants, and workmen, and each and every of them, may be restrained and enjoined, as well preliminary and provisionally as perpetually, from such infringement of said letters patent.

3. That the defendants may render to your orator a true account of the number of casks, barrels, or kegs which they or said firm of J. W. Gaff & Co. have pitched or heated for pitching by the use of a blast of heated air forced into such casks, barrels, or kegs, and of the gains, profits, and benefits derived therefrom, and may be decreed to pay over to your orator any and all of the gains, profits, savings, and advantages, to be duly determined, made, derived, or received by the said defendants or said firm of J. W. Gaff & Co. from the use of said patented invention and in violation of your orator's rights as aforesaid and all damages resulting to your orator from the use by the said defendants or said firm of J. W. Gaff & Co. of the said patented invention, together with such increase over the actual damages suffered as is warranted by law and may seem to your honors just and proper.

4. And that your orator may have such other and further relief in the premises as may be agreeable to equity and good conscience and as to your honors shall seem *to* meet.

To this end may it please your honors to grant unto your orator—

1. The writ of subpœna issued out of and under the seal of this honorable court, directed to the said defendants, Rachel S. Gaff, as executrix of the last will of James W. Gaff, deceased, and Samuel D. Langtree, commanding them by a certain day and under a certain penalty to be and appear in his honorable court and then and there to answer the premises and stand to and abide by such order and decree as may be made against them.

2. The writ of injunction, as well preliminary and provisional as perpetual, issuing out of and under the seal of this honorable court, enjoining and restraining the said defendants, Rachel S. Gaff, executrix, etc., and Samuel D. Langtree, their agents, attorneys, servants, and workmen, and each and every of them, as is heretofore in that behalf prayed.

And your orator will ever pray, etc.

MATTHEW GOTTFRIED.

BANNING & BANNING,
Solicitors for Complainant.
THOMAS A. BANNING, *Of Counsel.*

8 (Copy of patent mentioned in foregoing bill.)

No. 42580.

THE UNITED STATES OF AMERICA.

To all to whom these letters patent shall come:

Whereas J. F. T. Holbeck and Matthew Gottfried, of Chicago, Illinois, have alleged that they have invented a new and useful improved mode of pitching barrels, which they state has not been known or used before this application; have made oath that they are citizens of the United States; that they do verily believe they are the original and first inventors and discoverers of the said invention, and that the same hath not, to the best of their knowledge and belief, been previously known or used; have paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said invention and praying that a patent may be granted for that purpose:

These are therefore to grant, according to law, to the said Holbeck and Gottfried, their heirs, administrators, or assigns, for the term of seventeen years from the third day of May, one thousand eight hundred and sixty-four, the full and exclusive right and liberty

9 of making, constructing, using, and vending to others to be used, the said invention, a description whereof is given in the words of said Holbeck and Gottfried in the schedule hereunto annexed, and is made a part of these presents.

In testimony whereof I have caused these letters to be made patent and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this third day of May, in the year of our Lord one thousand eight hundred and sixty-four, and of the Independence of the United States of America the eighty-eighth.

[L. S.]

J. P. USHER,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

D. P. HOLLOWAY,
Commissioner of Patents.

The Schedule Referred to in These Letters and Making Part of the Same.

To all whom it may concern:

Be it known that we, J. F. Th. Holbeck and Matthew Gottfried, both of Chicago, county of Cook and State of Illinois, have invented a new and useful improvement in pitching barrels, etc., and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a longitudinal section taken in a vertical plane through the center of the apparatus, which we employ in the operation of pitching barrels, etc. Figure 2 is a horizontal section taken

in the course indicated by red line *x x* in figure 1. Figures 3 and 4 are views of the tubular closing guard which is applied to the barrels or casks in the operation of heating them. Similar letters of reference indicate corresponding parts in the several figures.

Before filling casks with spirituous or volatile liquids it is necessary to render the casks impervious to air, the most common and probably the cheapest method of doing which has been to flow melted pitch or other substance into the pores and joints of the casks while they are in a heated state, but the difficulties hitherto attending this process arise in consequence of a want of some economical means of heating the casks without burning or seriously charring their inside surfaces.

My invention has for its object the preparation of casks for
10 receiving pitch or other melted substance suited to the object in view by subjecting said casks to blasts of highly heated air by means of an apparatus which will be hereinafter described. To enable others skilled in the art to understand our invention we will describe its construction and operation:

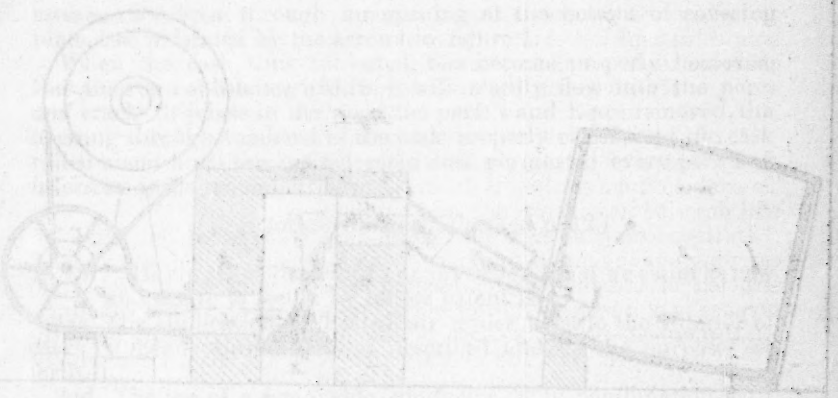
In the accompanying drawings we have represented one mode of carrying our invention into effect, which consists of a furnace constructed of masonry, as represented by A, figures 1 and 2. This furnace is of a rectangular form and has a vertical central opening, A′, through it. Near the base of the furnace is a grate, *a*, beneath which is the ash pit *b* and above which is a fire chamber, *c*, which is covered by a lid, *c′*, as shown in figure 1.

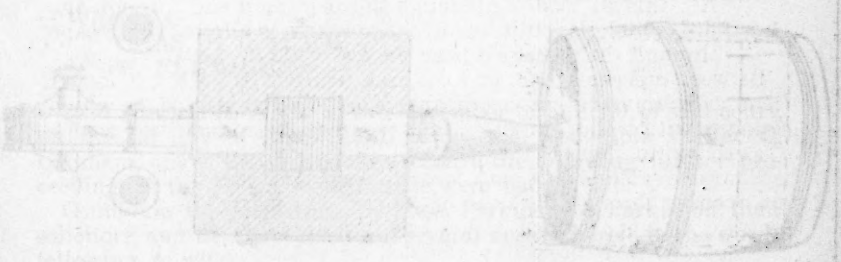
An opening, *d*, is made through the side of furnace A, which forms an external communication with an internal chamber, A′, either below the grate or above this grate, as shown in figure 1. This opening, *d*, communicates with a fan case, B, arranged outside of the furnace and furnished with a series of rotary wings or fans, *e e*, which may be rotated by any convenient motive power.

The fans *e e* create a blast of air through the furnace chamber A′; this air, rushing through the opening *d* and through the
11 fire which is built upon the grate *a*, is allowed to escape through the passage *d* near the top of the furnace.

Between this passage, *d*, and the cask which it is desired to heat I form a communication by means of a detachable pipe, E, which connects with a short pipe, E′, that is secured around the passage *d′* as shown in Figures 1 and 2.

The removable pipe E may be made conical, as represented, so that the opening through the head of the cask D need not be very large, and this pipe is provided with a bow handle, *g*, by means of which the pipe can be removed or adjusted in place without liability of burning the hands. The contracted end of pipe E enters a short tube, *h*, which passes through and is suitably affixed to a covering plate, *i*, that is used to close or partially close the opening *j*, which is made through the head of the cask. This plate, *i*, should be somewhat larger than the opening through the head of the cask, and this opening should be of such form as to admit plate *i* and to allow of this plate being adjusted as represented in Figure 1. When this plate *i* is adjusted on the inner side of the cask head, opposite the





No. 295
Gaff. Exlx &c.
Gottfried
p. 12.

Holbeck & Gottfried,

Mode of Pitching Barrels.

No. 42,580. Patented May 3. 1864.

Fig. 1.

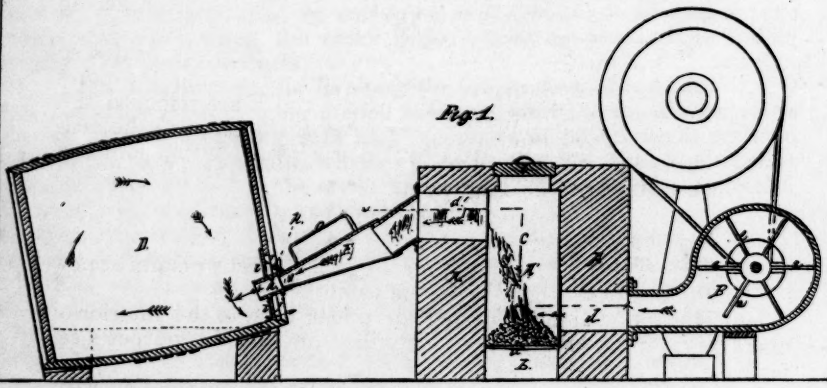
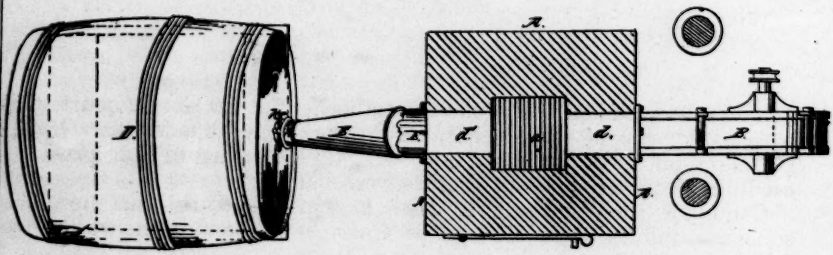


Fig. 4.

Fig. 2.



Witnesses.
R. T. Campbell.
O. Schofer.

Inventor.
J. F. W. Holbeck
by his atty.
Mann Pennick & Lawrence

openings therethrough, it may be confined in place by means of a key, *k*, which is passed between a flange formed on the projecting outer portion of the short pipe *h* and the head of the cask, as represented in figures 1 and 2.

When a cask which it is desired to render impervious to air is adjusted in proper position and a communication formed between it and the furnace A, as above described, a fire is made upon the grate *a*, and by means of the blast fan applied to the furnace the heated products of combustion are forced into the cask and allowed to escape therefrom through an opening at the bottom of covering plate *i*, as indicated by the arrows in figure 1.

When the cask, thus subjected, has become properly heated so that the resin substance within it will readily flow into the pores and cracks or joints in the wood the parts *i* and E are removed, the opening through the head of the cask properly closed, and the cask rolled about until the melted resin has permeated every pore and interstice in its inside surface.

(Here follows diagram marked p. 12.)

13 Having thus described our invention, what we claim as new and desire to secure by letters patent is—

1st. The application of heated air under blast to the interior of casks by means substantially as described and for the purposes set forth.

2nd. The use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described.

3rd. The tube holding plate *i*, in combination with the removable pipe E and blast furnace A, substantially as and for the purposes described.

J. F. TH. HOLBECK.
MATH. GOTTFRIED.

Witnesses:
CHAS. H. BARMM.
M. FLEMING.

And afterwards, to wit, at the November term, 1880, of said court, on the 2d day of April, 1881, before the Honorable Walter Q. Gresham, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and file their joint and several answer herein in the words following, to wit:

The Joint and Several Answer of Rachel S. Gaff, Executrix of the Estate of James W. Gaff, Deceased, and Samuel D. Langtree, Defendants, to the Bill of Complaint Herein.

These defendants, reserving to themselves all right of exception and objection to said bill of complaint, for answer thereto, say as follows:

I. They deny that the said complainants were the original or first inventors of any improvement in pitching barrels, as set forth in said bill of complaint; deny that the alleged improvement had not been in public use and on sale for more than two years prior to the application for a patent therefor, and deny that the alleged improvement or any exclusive right therein was secured to them by or under the patent set forth in said bill or by any assignment of or under said letters patent.

II. They are informed and believe, and therefore allege, that these complainants have since the issue of said patent divested themselves by lawful assignments of all title thereunder, but are not informed whether the same has been reassigned to them or whether they now are vested with said title, and therefore deny the same; and further deny that they are entitled to any damages occasioned by infringement of said patent, or any gains, profits, savings, or advantages made or received by reason thereof, or are entitled to sue for or receive the same.

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III. They deny that said patent is good or valid; deny that the public generally acquiesced in the validity thereof; deny that any money, profit, or advantage has been lawfully realized by licenses, settlements, recoveries, or otherwise under said patent, and allege that all money and profit which has been obtained thereby has been wrongfully extorted by threats of expensive and vexatious litigation, and by misrepresentations as to the validity of said patent.

As to the several suits against other parties recited in said bill of complaint they have no specific information, and leave the complainants to make such proof thereof as they may be able, denying, however, that they are affected thereby, and denying that the defences available against said patent were fully exhibited or passed upon in either of said suits.

IV. They deny that they have at any time violated any right of the complainants; deny that they have used or are using any invention embraced in said patent or any invention patented as alleged in said bill of complaint; deny that any injury has resulted to the complainants or any gain or profit accrued to these defendants which belong to the complainants or which they have been prevented from deriving by any wrongful act of these defendants.

V. They deny that the alleged improvement in pitching barrels described and claimed in said patent involved patentable invention.

VI. They deny that said Gottfried and Holbeck were joint inventors of the same, or any part thereof.

VII. They say, on information and belief, that said Gottfried and Holbeck were not the original or first inventors of the alleged improvement in pitching barrels for which said letters patent are, or purport to be, granted, or of any material or substantial part thereof; that the same had been shown and described in letters patent and printed publications and works and had been in public use and on sale in this country prior to their supposed invention and discovery thereof; that the same had been abandoned to the public; that for

many years since the issue of said patent to the complainants machines similar in construction and in mode of operation to those now and heretofore used by these defendants, and by the use of which they are charged with infringement in said bill of complaint, have been commonly manufactured, used, and sold throughout this country by many different persons with the full knowledge of the complainants and without their asserting or pretending to have any exclusive right thereto, though having the same title then as now under said letters patent; that these defendants and the public generally have thereby been led to suppose, and have up to about the time the bill of complaint herein was filed, supposed that they had the right to make, use, and sell said machines, and that these complainants fully recognized and accorded said right and made no claims to any exclusive right therein; that said complainants have thereby become estopped from asserting any exclusive right in or to any of said machines or the processes for which they are and have been used, and all title thereto would thus be abandoned to the public, if any such title had ever been vested in them by said letters patent.

VIII. That said alleged improvements were prior to the alleged invention thereof by complainants described and shown in the following letters patent and printed publications, to wit:

English letters patent, No. 12918, to Cochrane and Slate, granted and dated January 3d, 1850.

English letters patent, No. 9924, to Robert Davison and William Symington, granted and dated November 2d, 1843.

English letters patent, No. 6901, to Charles Pierre Deveaux, granted and dated October 8th, 1835.

English letters patent, No. 5701, to James Beaumont Nelson, granted and dated September 11th, 1828.

English letters patent, No. 11067, to George Hinton Bovill, granted and dated January 31st, 1846.

English letters patent, No. 4253, to Sir Thomas Coleman and Alexander Galloway, granted and dated May 4th, 1818.

English letters patent, No. 83, of 1854, to Belford, granted and dated January 12th, 2854; sealed May 26th, 1854.

English letters patent, No. 435, of 1859, to John J. Russel, granted and dated February 16th, 1859.

English letters patent, No. 183, of 1860, to Isaac L. Bell, granted and dated January 24th, 1860.

English letters patent, No. 71, of 1857, to John J. Russel, granted and dated March 28th, 1857.

Tomlinson's Cyclopedia of Useful Arts, published by George Virtue and Company, London and New York, 1854, volume 2, page 665, figure 2015.

Handbuch fur Bierbrauer, von P. Muller, Druch und Verlag, von Friedrich Vieweg und Son, Braunschweig, 1854, (received in the Library of the United States Patent Office at Washington, D. C., March 12th, 1855), page 116 to foot of page 118.

IX. That said alleged improvements were prior to the alleged invention thereof by the complainants, known to and publicly

made, used, and sold in the United States by the following persons to wit:

Known and publicly used at the Eureka Iron Company's works, in Wyandotte, Michigan, and at the Richmond Iron Furnace, Berkshire county, Massachusetts, by the following persons, among others, to wit:

Warren Brinton, now residing at Bay View, Wisconsin; J. J. Hagerman and S. D. Arnold, both now residing at Milwaukee, Wisconsin; George Coffin and Walter Lovelace, both now residing at Richmond aforesaid, and Charles Lovelace, now residing at Depere, Wisconsin.

Known and publicly used at the Rockland Brewery and elsewhere in New City, Rockland county, New York, and in Charleston, in said county and State; by Joseph Beck, who now resides in the city of New York, in said State, and by Albrecht Becker, who now resides in the city of Brooklyn, in said State.

Known and publicly made, used, and sold in the city of St. Louis, Missouri, by Conrad Seibel, who now resides and may be found at No. 810 South Second St., in said city of St. Louis.

16 Known and publicly used in said St. Louis by Christian Stahlin, Julius Winklemeyer, Julius Winklemeyer & Co., Joseph Schneider, John G. Zoller, John G. Zoller & Co., the Star Brewery, William J. Lemp, Schuer's Brewery, and many others, which said persons and companies now reside in said St. Louis.

X. They say that said patent does not describe or show a useful or successful operative machine, and that said machine has never been made, used, or sold by the complainants or others, as there shown, and that the machines and all the machines that have been made, sold, or used by complainants and others purporting to be made under said patent and marked thereunder and now sought to be covered thereby were first introduced to the market by other parties and are only valuable, useful, and salable by reasons of features not shown or described in said patent.

All of which things these defendants are ready to maintain and prove as this honorable court shall direct, and they pray to be hence dismissed with their costs in this behalf maintained.

RACHEL S. GAFF,
Executrix of the Estate of James W. Gaff, Deceased,
SAMUEL D. LANGTREE.

PARKINSON & PARKINSON,
Solicitors and of Counsel for Defendants.

And afterwards, to wit, at the May term of said court, on the 9th day of July, 1881, before the Honorable Thomas Drummond and the Honorable Walter Q. Gresham, judges of said court, the parties in the above-entitled cause, by their respective solicitors, filed their stipulation herein in the words following, to wit:

It is agreed by counsel that it may be taken as admitted, for the purposes of these causes, that Tomlinson's Cyclopedia and Handbuch fur Bierbrauer, of which extracts are in evidence, were published at

or about the date recited in the certificates attached to the said abstracts, viz., A. D. 1854.

17 And that Der Bierbrauer, of which an extract is in evidence, was published in the year recited on its title page, viz., A. D. 1861.

Dated July 1, 1881.

BANNING & BANNING,
Solicitors for Compl'ts.
PARKINSON & PARKINSON.

And afterwards, to wit, at the May term of said court, on the 17th day of October, 1881, before the Honorable Thomas Drummond and the Honorable Walter Q. Gresham, judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Mess. Banning & Banning, his solicitors, and files his replication herein in the words following, to wit:

The Replication of Matthew Gottfried, Complainant, to the Answer of said Defendants.

This repliant, saving and reserving unto himself, now and at all times hereafter, all and all manner of benefit and advantage of exception which may be had or taken to the manifold insufficiencies of the said answer, for replication thereunto, says that he will aver, maintain, and prove his said bill of complaint to be true, certain, and sufficient in law to be answered unto, and that the said answer of the defendants is uncertain, untrue, and insufficient to be replied unto by this repliant, without this, that any other matter or thing whatsoever in said answer contained material or effectual in the law to be replied unto, confessed or avoided, traversed or denied, is true; all which matters and things this repliant is and will be ready to aver, maintain, and prove as this honorable court shall direct; and humbly prays as in and by his said bill he has already prayed.

BANNING & BANNING,
Solicitors for Complainant.

And afterwards, to wit, at the May term of said court, on the 23d day of September, 1882, before the Honorable Walter Q. Gresham,

18 one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause came on to be heard at this term and was argued by counsel; and thereupon, upon consideration thereof, it was ordered, adjudged, and decreed as follows, viz:

That said complainant and one John F. T. Holbeck were the original and first inventors and discoverers of the invention described and claimed in letters patent of the United States No. 42580, issued to them on the third of May, 1864, for an improved mode of

pitching barrels; that said letters patent are in all respects good and valid in law, and that the complainant is the exclusive owner thereof and entitled to sue for and receive all damages and profits arising out of or accruing from infringements thereof, as alleged in the bill of complaint herein.

That the said Rachael S. Gaff, executrix, etc., James W. Gaff, in his lifetime, and Samuel D. Langtree have infringed upon the said letters patent and upon the exclusive rights of the complainant under the same by using the invention therein described and claimed, as alleged in said bill.

That the complainant recover of said defendants the profits, gains, and advantages which the defendants and James W.
19 Gaff, in his lifetime, have received or made or which have arisen or accrued to them from their infringement of said letters patent by the use of said patented invention as aforesaid, and also the damages which the complainant has sustained thereby.

That this cause be referred to William P. Fishback, Esq., one of the masters of this court, to take proofs and to ascertain and take and state and report to the court an account of the number of kegs, barrels, casks, and other vessels which the defendants and the said James W. Gaff have pitched or heated for pitching by the use of said patented invention, and of the gains, profits, and advantages which they have received or which have arisen or accrued to them from said infringement of said letters patent and use of said patented invention as aforesaid, and also of the damages which the complainant has sustained thereby; that on such accounting the complainant have the right to cause an examination of the defendants, *ore tenus* or otherwise, and also the production of the books, vouchers, and documents of the defendants, and that the defendants attend for such purpose before the master from time to time as said master shall direct.

And the defendants, by their solicitors, now file their mo-
20 tion and reasons for a rehearing herein in the words following, to wit, which motion was overruled:

And afterwards, to wit, in recess of said court, on the 28th day of September, 1882, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants in the above-entitled cause, by Mess. Parkinson & Parkinson, their solicitors, and file their motion for rehearing in above cause in the words following, to wit:

Now come the defendants and move the court to set aside the decree heretofore entered and for a rehearing and reversal of its order for a final decree last made herein for the reason—

First. That the court erred in ordering a final decree upon *ex parte* affidavits.

Second. That the court erred in reversing its order heretofore made for a decree dismissing the bill.

Third. That the court erred in finding that there was any patentable novelty in the Gottfried machine.

Fourth. That the court erred in overlooking the machine known

in evidence as the "Pewteres Blast," the "De Vaux machine," and the anterior machines, in misconstruing the Cochran and State patent, and in finding that the machine shown and claimed in complainant's patent possessed any patentable novelty as com-
21 pared with these earlier machines.

Fifth. That the court erred in that it did not find that the first claim of complainant's patent, being for the process, was invalid, the court having found that the process was not novel.

Sixth. That the court erred in that it did not find that there was no infringement of either the second or third claims.

Seventh. That the court erred in ordering a decree for injunction and account upon a patent long since expired.

Eighth. That the court erred in that it did not find that the patent having expired before the submission of the cause, it had no jurisdiction as a court of equity to award either an injunction or account or other relief.

Ninth. That the court erred in that it did not find that the patentee, having unreasonably neglected and delayed to disclaim the process claim of his patent, was not entitled to any relief whatever in this case.

Tenth. That the court erred in that it did not find that the complainant had no sufficient title under the patent sued upon to maintain this suit.

Eleventh. That the decree herein was entered without notice to the defendants and without opportunity to object to the form and substance thereof.

Twelfth. That the decree entered herein finds infringement
22 of complainant's patent generally, without specifying any particular claims thereof, whereas there was no evidence which, upon the broadest construction of the patent, tended to prove the infringement of any other than the "process" claim, which said claim was held, in the opinion of the court, to be incapable of being sustained as a process claim.

Thirteenth. For that if the patent is construed as a patent for a machine, as the court now construes it, the record shows that there is no infringement.

Fourteenth. For that the decree recites the case to have been argued by counsel during the present term, whereas there has been no argument by counsel during the term, unless it be by the counsel, directly or indirectly, representing complainant without notice to defendants.

Fifteenth. For that the court erred in hearing *ex parte* affidavits upon an issue raised by demurrer to the complainant's petition for rehearing and in entering a final decree upon a finding based upon such *ex parte* affidavits and in overlooking other defences in the case than those to which said *ex parte* affidavits particularly related.

PARKINSON & PARKINSON,
For Defendants.

And afterwards, to wit, at the May term of said court, on the 7th day of October, 1882, before the Honorable Walter Q. Gresham,
23 one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause having been heretofore argued by the counsel of the respective parties and an opinion delivered by the court finding the equities in favor of the defendants, and a petition for a rehearing having been filed by the plaintiff and demurred to by the defendant- and argued by the counsel of the respective parties, and another opinion delivered by the court finding the equities this time in favor of the plaintiff, and a petition for a rehearing having been filed by the defendant- and overruled by the court, and a decree entered in favor of the plaintiff, and another motion for a rehearing and to set aside said decree having been filed by the defendant- and argued by their counsel, the court, declining to hear arguments for the plaintiff, and the court being sufficiently advised thereon, doth now order, adjudge, and decree that said motion for a rehearing and to set aside said decree filed by the defendant- be, and the same is hereby, overruled, and that said decree stand affirmed; and, further, that said decree be, and is hereby, amended so as to adjudge and decree that the plaintiff's patent, No. 42580, is good and valid in law as to its first and second claims, and that the defendant-
24 *has* only infringed said first and second claims, the third claim of said patent not being now in controversy.

And afterwards, to wit, at the November term of said court, on the 16th day of November, 1883, before the Honorable Walter Q. Gresham, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now William P. Fishback, Esq., master in chancery, and files his report and evidence in the above-entitled cause in the words following, to wit:

And afterwards, to wit, at the November term of said court, on the 21st day of November, 1883, before the Honorable William A. Woods, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and file their motion to strike the master's report herein from the files, and said motion is in the words following, to wit:

And afterwards, to wit, at the November term of said court, on the 3d day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Messrs. Banning and Ban-
25 ning, his solicitors, and the defendants, by Messrs. Parkinson & Parkinson, their solicitors; and thereupon the court, being sufficiently advised, doth now overrule the motion of the defendants, filed herein on the 21st day of November, 1883, to strike the master's report herein from the files; to which ruling of the court in over-

ruling said motion the defendants, by their solicitors, now here except.

And afterwards, to wit, at the November term of said court, on the 14th day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Messrs. Parkinson & Parkinson, their solicitors, and file their exceptions to the report of the master herein in the words following, to wit:

And afterwards, to wit, at the November term of said court, on the 5th day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause coming on to heard upon the exceptions filed by the defendants to the report of William P. Fishback, Esq., the master to whom this cause was referred, which report is dated the 16th
26 day of November, 1883, and by which it appears that there is due from the defendants to the complainant the sum of five thousand four hundred and sixty dollars and forty-five cents ($5,460.45) for the infringement by the defendants of letters patent of the United States No. 42580, issued to Gottfried and Holbeck May 3d, 1864, for an improved mode of pitching barrels:

It is thereupon, upon consideration thereof, ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that all said exceptions to said master's report be, and the same are hereby, overruled, and that said report do stand, in respect to amount of damages found due complainant, ratified and confirmed.

It is further ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that the said defendants pay to the said complainant the sum of five thousand four hundred and sixty dollars and forty-five cents ($5,460.45), and also the costs of suit, to be taxed herein at $——, and that the complainant have execution therefor against the said Samuel D. Langtree, and that the said Rachael S. Gaff, as executrix of the estate of James W. Gaff, deceased, pay the same in due course of administration.

It is further ordered that William P. Fishback, Esq., be
27 allowed $—— in full for his services as master in this cause, the same to be taxed and collected as other costs.

And afterwards, to wit, at the November term of said court, on the 8th day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and file their motion for appeal in the above-entitled cause in the words following, to wit:

And at the same time said defendants also file their motion to stay the entry of the decree herein in the words following, to wit:

Now come the defendants herein and move the court to stay the

And afterwards, to wit, at the May term of said court, on the 7th day of October, 1882, before the Honorable Walter Q. Gresham,
23 one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause having been heretofore argued by the counsel of the respective parties and an opinion delivered by the court finding the equities in favor of the defendants, and a petition for a rehearing having been filed by the plaintiff and demurred to by the defendant- and argued by the counsel of the respective parties, and another opinion delivered by the court finding the equities this time in favor of the plaintiff, and a petition for a rehearing having been filed by the defendant- and overruled by the court, and a decree entered in favor of the plaintiff, and another motion for a rehearing and to set aside said decree having been filed by the defendant- and argued by their counsel, the court, declining to hear arguments for the plaintiff, and the court being sufficiently advised thereon, doth now order, adjudge, and decree that said motion for a rehearing and to set aside said decree filed by the defendant- be, and the same is hereby, overruled, and that said decree stand affirmed; and, further, that said decree be, and is hereby, amended so as to adjudge and decree that the plaintiff's patent, No. 42580, is good and valid in law as to its first and second claims, and that the defendant-
24 *has* only infringed said first and second claims, the third claim of said patent not being now in controversy.

And afterwards, to wit, at the November term of said court, on the 16th day of November, 1883, before the Honorable Walter Q. Gresham, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now William P. Fishback, Esq., master in chancery, and files his report and evidence in the above-entitled cause in the words following, to wit:

And afterwards, to wit, at the November term of said court, on the 21st day of November, 1883, before the Honorable William A. Woods, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and file their motion to strike the master's report herein from the files, and said motion is in the words following, to wit:

And afterwards, to wit, at the November term of said court, on the 3d day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Messrs. Banning and Ban-
25 ning, his solicitors, and the defendants, by Messrs. Parkinson & Parkinson, their solicitors; and thereupon the court, being sufficiently advised, doth now overrule the motion of the defendants, filed herein on the 21st day of November, 1883, to strike the master's report herein from the files; to which ruling of the court in over-

ruling said motion the defendants, by their solicitors, now here except.

And afterwards, to wit, at the November term of said court, on the 14th day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Messrs. Parkinson & Parkinson, their solicitors, and file their exceptions to the report of the master herein in the words following, to wit:

And afterwards, to wit, at the November term of said court, on the 5th day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

This cause coming on to heard upon the exceptions filed by the defendants to the report of William P. Fishback, Esq., the master to whom this cause was referred, which report is dated the 16th
26 day of November, 1883, and by which it appears that there is due from the defendants to the complainant the sum of five thousand four hundred and sixty dollars and forty-five cents ($5,460.45) for the infringement by the defendants of letters patent of the United States No. 42580, issued to Gottfried and Holbeck May 3d, 1864, for an improved mode of pitching barrels:

It is thereupon, upon consideration thereof, ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that all said exceptions to said master's report be, and the same are hereby, overruled, and that said report do stand, in respect to amount of damages found due complainant, ratified and confirmed.

It is further ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that the said defendants pay to the said complainant the sum of five thousand four hundred and sixty dollars and forty-five cents ($5,460.45), and also the costs of suit, to be taxed herein at $——, and that the complainant have execution therefor against the said Samuel D. Langtree, and that the said Rachael S. Gaff, as executrix of the estate of James W. Gaff, deceased, pay the same in due course of administration.

It is further ordered that William P. Fishback, Esq., be
27 allowed $—— in full for his services as master in this cause, the same to be taxed and collected as other costs.

And afterwards, to wit, at the November term of said court, on the 8th day of December, 1884, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and file their motion for appeal in the above-entitled cause in the words following, to wit:

And at the same time said defendants also file their motion to stay the entry of the decree herein in the words following, to wit:

Now come the defendants herein and move the court to stay the

entry of final decree pending an appeal in the case, the same complainant *vs.* Crescent Brewing Company, now pending in this court, and for reason for said motion show as follows, to wit:

That the questions in controversy in the said cause are in all material respects the same; that the record therein is in all material respects the same; that a determination of the questions in
28 issue in either of said causes will be determinate of the other of said causes, and that an appeal of each of said causes entail upon the parties great and unnecessary expense without material benefit to either of the said parties.

Cincinnati, Ohio, Dec. 6, 1884.

Respectfully, PARKINSON & PARKINSON,
For Def'ts.

And afterwards, to wit, at the November term, 1884, of said court, on the 20th day of January, 1885, before the Honorable William A. Woods, one of the judges as aforesaid of said court, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and withdraw their motion filed on the 8th day of December, 1884, to stay the entry of the decree herein and file their prayer for appeal herein in the words following, to wit:

And the court doth allow said appeal; whereupon the defendants file their appeal bond herein in the sum of seven thousand five hundred dollars, with John McGuire and Henry W. Smith as sureties thereon, which is approved by the court.

At the same time come the parties, by their solicitors, and file their stipulation herein in the words following, to wit:

29 The record and evidence in the above-entitled causes, being in all respects the same, except as to the pleadings and special matters covered by stipulations or orders of court:

It is hereby stipulated and agreed that in making up a transcript of the record for the Supreme Court the clerk shall simply copy and certify up the evidence in the first of the above-entitled causes and the pleadings, orders of court, stipulations, appeal bonds, and other special matters in the other two, making his certificate properly conform to this stipulation, and that the evidence so certified in the first of said causes shall be used in the hearing of all of said causes in the Supreme Court with like effect as if separately certified as a part of the transcript of each of said causes.

BANNING & BANNING,
Solicitors for Complainant.
PARKINSON & PARKINSON,
Solicitors for Defendants.

Bond.

Know all men by these presents that we, Rachael D. Gaff, of Cincinnati, Ohio, and Samuel D. Langtree, John McGuire, and Henry W. Smith, of Aurora, Indiana, are held and firmly bound
30 unto Matthew Gottfried, of Chicago, Illinois, in the sum of seven thousand five hundred dollars, to be paid to

the said Matthew Gottfried, his executors or administrators; to which payment, well and truly to be made, we bind ourselves and each of us, jointly and severally, and our and each of our heirs, executors, and administrators, firmly by these presents.

Sealed with our seals. Dated this 29th day of December, A. D. 1884.

Whereas the above-named Rachael S. Gaff, executrix, *et al.* have prayed an appeal to the Supreme Court of the United States to reverse the decree rendered in the above-entitled action by the circuit court of the United States for the district of Indiana.

Now, therefore, the condition of this obligation is such that if the above-named Rachael S. Gaff, executrix, *et al.* shall prosecute said appeal to effect and answer all damages and costs if they shall fail to make good their said plea, then this obligation to be void; otherwise to remain in full force and virtue.

RACHAEL S. GAFF. [SEAL.]
SAMUEL D. LANGTREE. [SEAL.]
JOHN McGUIRE. [SEAL.]
HENRY W. SMITH. [SEAL.]

Sealed and delivered in presence of—
THOMAS T. GAFF.
JAS. D. PARKER.

The above security is approved.

31 W. A. WOODS,
Judge of the United States —, Dist. of Indiana.

UNITED STATES OF AMERICA, *District of Indiana,* } *ss:*

I, Noble C. Butler, clerk of the circuit court of the United States within and for said district, do hereby certify that the above and foregoing is a full and true transcript of the pleadings and entries in the case of Matthew Gottfried against Rachael S. Gaff, executrix, &c., *et al.*, as fully as the same remain upon the records and files now in my office.

Witness my hand and the seal of said court, at Indianapolis, in said district, this 28th day of April, 1885.

[Seal Circuit Court of the United States, District of Indiana.]

NOBLE C. BUTLER, *Clerk.*

32 *Appeal from the Circuit Court of the United States for the District of Indiana.*

Supreme Court of the United States.

RACHEL S. GAFF, Executrix, *et al. vs.* MATTHEW GOTTFRIED.

The following facts and documents not appearing in the transcript of the record in this cause made and certified by the clerk of the circuit court, we hereby stipulate and agree in relation thereto as follows:

1. That on, to wit, the 1st day of February, A. D. 1879, the com-

plainants filed in the office of the clerk of said court their bill of complaint in the words and figures following, to wit:

To the honorable the judges of the circuit court of the United States in and for the district of Indiana:

Matthew Gottfried and John F. T. Holbeck, both of the city of Chicago, in the State of Illinois, and John H. Stromberg, of the city of Baltimore, in the State of Maryland, complainants, bring this their bill of complaint against J. W. Gaff, of Cincinnati, Ohio, and S. D. Langtree, of Aurora, Indiana, copartners, etc., doing business at Aurora, Indiana, under the firm name and style of Gaff & Co.

And thereupon your orators complain and say—

I. That prior to the 3rd day of May, 1864, your orators, John F. T. Holbeck and Matthew Gottfried, were the original and first inventors and discoverers of a new and useful improvement in pitching barrels, and that upon due application letters patent of the United States No. 42580 in due form were issued to the said Holbeck and Gottfried, dated May 3, 1864, granting to them, their heirs, administrators, or assigns, for the term of seventeen years, the full and exclusive right of making, using, and vending to others to be used,
33 the said invention, as by reference to the said letters patent or a certified copy thereof here in court to be produced will more fully appear.

II. That, by virtue of the premises and written assignments given for good and valuable considerations, which are of record in the United States Patent Office, and certified copies of which your orators are ready here in court to produce, your orators became and now are the sole and exclusive owners of the entire right, title, and interest in and to the said letters patent, and that the said letters patent are in all respects good and valid.

III. That the public generally acknowledge the validity of the said letters patent.

That heretofore, to wit, on the 4th day of October, 1877, your orators filed their bills of complaint against Frank Bartholomae and Bernard Roesing, Peter Fortune and John Fortune, and Peter Schoenhofen, respectively, in the circuit court of the United States for the northern district of Illinois, setting forth, among other things, the said letters patent No. 42580 and the infringement thereof by the said defendants, and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills, denying, among other things, the validity of said letters patent, and setting up that the said Holbeck and Gottfried were not the first and original inventors and discoverers of the said improvement in pitching barrels, but that the same had been known and publicly used by others in this and other countries long prior to the date of said patent; that, issues being joined therein and proofs taken at length and for a long time, all of said causes were brought to a hearing on their merits on the 8th day of May, 1878, before his honor Judge Blodgett, and were argued before him by the counsel for your orators and said parties, respectively, and were afterwards held under advisement by said judge until the 24th

34 day of June, 1878, when judgment was duly pronounced, and that the said court then decided, among other things, that said letters patent were good and valid in law and that said Holbeck and Gottfried were the original and first inventors of the said improvement patented as aforesaid, and by decrees entered of record in two of said causes (a special arrangement being made by counsel as to the other) perpetually enjoined the said defendants, Bartholomae and Roesing and Fortune Bros., from using the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of the infringements already committed by the said last-named defendants, as by reference to the record of the proceedings in said suits will more fully appear.

IV. That the defendants, well knowing the premises, and in infringement of the said letters patent, and in violation of the exclusive rights of your orators thereunder, and since the same accrued to your orators, and prior to the commencement of this suit, and without the license of your orators, at Aurora, Indiana, to wit, at the district aforesaid, and at various other places in the United States, have used and still continue to use the said invention patented as aforesaid, but to what extent your orators are unable to say.

V. That your orators have notified the defendants of the said infringement and requested them to desist therefrom, but they have continued the same.

VI. That the aforesaid actings and doings of the defendants are in defiance of your orators' rights as aforesaid and to their irreparable loss and injury, and deprive them of great gains and profits which otherwise they would obtain, but which are now received by the defendants.

35 VII. That your orators have no adequate remedy save in this honorable court, where matters of this nature are properly cognizable.

Wherefore your orators pray—

1. That the defendants may answer the premises and may fully disclose the name and number of all the pitching machines they are using and have used and by whom the same were manufactured, and whether in such machine or machines the air is heated by its being forced directly through or in contact with the fire on its passage from the blower to the cask or barrel to be pitched, and, if not, how it is heated, stating fully the operation of the machine.

2. That the defendants, their agents, attorneys, servants, and workmen, each and every of them, may be restrained and enjoined, as well preliminarily and provisionally as perpetually, from such infringement.

3. That the defendants may render to your orators a true account of the number of casks, barrels, or kegs which have been pitched by them by the use of a blast of heated air forced into such casks, barrels, or kegs, and of the gains and benefits derived therefrom, and may be decreed to pay over to your orators any and all the gains, profits, and advantages, to be duly determined, made, derived, or received by the said defendants from the use of the said patented invention and in violation of your orators' rights.

4. That the defendants may be decreed to pay the costs of this suit and also all damages resulting to your orators from the use by the said defendants of the said damages suffered as is warranted by law and may seem to your honors just and proper.

36 5. And for such other and further relief as to this honorable court shall seem and just and agreeable to equity.

To this end may it please your honors to grant unto your orators—

1. The writ of subpœna issued out of and under the seal of this honorable court, directed to the said defendants, J. W. Gaff and S. D. Langtree, commanding them by a certain day and under a certain penalty to be and appear in this honorable court, and then and there to answer the premises and stand to and abide by such order and decree as may be made against them.

2. The writ of injunction, as well preliminary and provisional as perpetual, issuing out of and under the seal of this honorable court, enjoining and restraining the said defendants, J. W. Gaff and S. D. Langtree, their agents, servants, attorneys, and workmen, and each and every of them, as is heretofore in that behalf prayed.

And your orators will ever pray.

MATTHEW GOTTFRIED.
JOHN F. T. HOLBECK.
JOHN H. STROMBERG.

BANNING & BANNING,
Solicitors for Complainants, 147 *Randolph St., Chicago.*

EPHRAIM BANNING, *Of Counsel.*

37 UNITED STATES OF AMERICA,
Northern District of Illinois,
State of Illinois, Cook County. } *ss:*

John F. T. Holbeck, being duly sworn, deposes and says that he is one of the complainants named in the foregoing bill of complaint by him subscribed; that he has read the said bill and knows the contents thereof, and that the same is true, except as to the matters therein stated on information and belief, and as to these he believes it to be true; and he also believes that the said letters patent are in all respects good and valid.

JOHN F. T. HOLBECK.

Subscribed and sworn to before me this 30th day of January, A. D. 1879.

[SEAL.] THOMAS A. BANNING,
Notary Public.

2. That on the same day, to wit, February 1, 1879, there issued out of the office of the clerk of said circuit court a subpœna, which, with the marshal's return thereon, was in the words and figures following, to wit:

UNITED STATES OF AMERICA, *District of Indiana:*

The President of the United States of America to the marshal of the district of Indiana, Greeting:

You are hereby commanded to summon J. W. Gaff (Cincinnati) and S. D. Langtree (Aurora), citizens of and resident in the State of Indiana, if they be found in your district, to be and appear
38 in the circuit court of the United States for the district of Indiana aforesaid, at Indianapolis, on the first Monday in March next, to answer a certain bill in chancery filed and exhibited in said court against them by Matthew Gottfried, J. F. T. Holbeck, and John H. Stromberg, citizens of and resident in the States of Illinois & Maryland. Hereof they are not to fail under the penalty of the law thence ensuing; and have you then and there this writ.

Witness Honorable Morrison R. Waite, Chief Justice of the Supreme Court of the United States, this last day of February, A. D. 1879, and in the one hundred and 3rd year of the Independence of the United States of America.

Attest: [SEAL.] W. P. FISHBACK, *Clerk.*

MEMORANDUM.—The said defendants are required to enter their appearance in this suit in the clerk's office of said court on or before the first Monday of March, 1879; otherwise the said bill may be taken *pro confesso.*

W. P. FISHBACK, *Clerk.*

Endorsed:

DISTRICT OF INDIANA:

I received this writ at Indianapolis, in said district, at — o'clock — m. on the — day of ——, A. D. 187–, and served the same in —— county, as follows: — day of ——, 187–, by —, Feb. 5th, 1879.

I served the within subpœna as commanded by reading and delivering a copy of the same to Samuel D. Langtree.

J. W. Gaff is deceased.

BEN. J. SPOONER, *U. S. Marshal.*
By CHARLES SPOONER, *Deputy.*

39 3. That afterwards, to wit, on the 19th day of January, A. D. 1880, an interlocutory decree was entered in said cause in the words and figures following, to wit:

Now come the complainants, by Banning & Banning, their solicitors, and it appearing to the court that the defendants, J. W. Gaff and S. D. Langtree, have been duly served with process and have failed to appear and answer the complainants' bill of complaint herein in conformity with the rules and practice of this court, and they, being now three times solemnly called, come not, but make default:

It is therefore considered by the court that their default be entered, and that the complainants' bill of complaint herein and the matters and things therein contained be taken as confessed and true as against them.

Now, therefore, on consideration thereof, it is ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, as follows, viz: That the letters patent No. 42580, granted on the third (3d) day of May, A. D. 1864, to J. F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, being the letters patent referred to in the bill of complaint herein, are good and valid in law; that the said John F. T. Holbeck and Matthew Gottfried were the first and original inventors and discoverers of the invention described and claimed in said letters patent and the specification annexed thereto, and that the complainants are exclusive owners of said patent and entitled to sue for and receive the damages and profits arising out of or accruing from infringements thereof.

That the said J. W. Gaff and S. D. Langtree, the defendants herein, have infringed upon the said letters patent and upon the exclusive rights of the complainants under the same—that is to say, by using the invention described and claimed in said letters patent as charged in the said bill of complaint.

40 That the complainants have and recover of the defendants the profits, gains, and advantages which they, the said defendants, have received or made from their said infringement of said letters patent by the use of said patented invention as aforesaid.

That it be referred to W. P. Fishback, Esq., a master in chancery, to take proofs and to ascertain and take and state and report to the court an account of the number of barrels, casks, kegs, and other vessels which the defendants have pitched or heated for pitching by the use of said patented invention, and the gains, profits, and advantages which the defendants have received or which have arisen or accrued to them from their infringement of said patented invention as aforesaid, and that the complainants, on such accounting, have the right to cause an examination of the said defendants *ore tenus* or otherwise, and also the production of the books, vouchers, and documents of the defendants, and that said defendants attend for such purpose before said master from time to time as he shall direct.

It is further ordered, adjudged, and decreed that a perpetual injunction be issued in this suit against the said defendants restraining them, their clerks, servants, and workmen, and all claiming, holding, or acting under them from, directly or indirectly, making, using, or selling the said invention described and claimed in said letters patent pursuant to the prayer of said bill of complaint.

4. That afterwards, to wit, on the — day of March, 1881, a motion to set aside said interlocutory decree was filed in said cause in the words and figures following, to wit:

Now come Parkinson & Parkinson, as attorneys, and, specially appearing for the purpose of this motion and for said purpose only, move the court to strike from the docket the interlocutory

41 decree herein entered and for leave in behalf of the defendant Langtree to answer therein for reasons, among others, as follows:

First. That said decree was wrongfully entered, no order therefor

having been entered, as required by the law and rules of practice relating thereto.

Second. That said decree recites that said J. W. Gaff was duly served with process, and the judgment herein is entered against said Gaff and Langtree jointly, whereas the return of service shows said Gaff not to have been served, but to have been dead.

Third. That by reason of the death of said Gaff, who had charge of the business of said J. W. Gaff & Co., and the misunderstanding of said Langtree of the nature of this cause, of the necessity of appearing and defending the same, and misrepresentations made to him relative thereto, the filing of his answer herein has been overlooked and neglected, without, however, as he believes, any prejudice to the complainants.

Fourth. That said Langtree is now advised, informed, and believes that the letters patent herein sued upon are invalid; that he has not infringed the same; that the complainants have not now and had not at the commencement of this suit or during the period of the alleged infringement title to said letters patent, and that he has many good and sufficient defenses to said suit and would be greatly and irreparably injured if this cause were allowed to proceed without answer.

Fifth. That judgments thus obtained and procured are being used extensively throughout the country by these complainants as a means of coercing others and innocent parties into extortionate settlements under said letters patent, and being represented
42 as judgments of the court conclusive upon the subject-matter involved, and this judgment if allowed to stand is liable to be so used to the great injury and wrong of the public, effected under the apparent authority of this honorable court.

PARKINSON & PARKINSON, *Att'ys.*

5. That afterwards, to wit, on the 23d day of March, A. D. 1881, a stipulation was filed in said cause in the words and figures following, to wit:

It is hereby agreed between the attorneys for complainants and defendants, respectively, in the above-entitled causes as follows:

First. That the decree heretofore entered in each of said causes shall be set aside.

Second. That the bill of complaint in said No. — 6454 shall be amended by dismissing as to said Gaff and also as to said Holbeck and Stromberg and introducing as joint defendant the legal representative of the estate of said Gaff.

Third. That within ten days of said amendment and notice thereof to said attorneys for defendants due appearance shall be entered and answer filed in behalf of the legal representative of the estate of said Gaff as well as in behalf of said Langtree without service upon said legal representative.

Fourth. That within ten days of notice to said attorneys for defendants that complainants *has* commenced in the same court a similar suit on the same patent against the Crescent Brewing Company

of Aurora, Indiana, appearance shall be entered and answer filed in behalf of said company without service.

Fifth. That complainants may use the deposition of James R. Vail, already taken in said cause No. 6454, and in said suit against
43 the Crescent Brewing Co., as well for the purpose of his *prima facie* case as on account, if any account shall hereafter be ordered, to have the same effect and with the same right of objection to relevancy and competency as if said deposition had been duly taken after the issues had been made up in said causes.

Sixth. Defendants shall close their proofs, as well in said cause against the Crescent Brewing Company as in said cause No. 6454, within — days after the complainants' *prima facie* case is closed: Provided, however, That if the complainants shall not at the time of closing said *prima facie* evidence have closed their *prima facie* case in the several suits on the same patent, now pending in the southern district of Ohio, in which their *prima facie* evidence has been already partly taken, the said — days shall run from the time of closing said last-named evidence. Any evidence taken in either of said causes now pending in the southern district of Ohio within the said — days may be used by a copy, either printed or written, as a part of the record in these causes with the same effect as if duly taken and entitled therein.

Seventh. That complainants shall have twenty days in which to take rebutting evidence after defendants have closed their evidence.

Eighth. That both sides shall unite in asking Judge Gresham or Judge Drummond to hear the said causes in twenty days after defendants have closed their evidence in rebuttal.

Ninth. That the bill of complaint in said cause No. 6840 shall be amended by dismissing as to said Holbeck; that within ten days of notice to said attorneys for defendants of said amendment an answer shall be filed therein, and that thereupon said cause shall abide the result of said cause No. 6454, remaining *in statu quo* until the
44 determination in the circuit court of said cause No. 6454, and a similar interlocutory decree be entered in each, but any appeal to be taken shall be taken in each separately, the evidence taken in either cause prior to the interlocutory decree to be treated, for the purpose of appeal, as in all the cases, and a copy thereof to the be used for the record on appeal.

BANNING & BANNING,
Solicitors for Complainants.
PARKINSON & PARKINSON,
Solicitors for Defendants.

6. That afterwards, to wit, on the 23rd day of March, A. D. 1881, an order setting aside said decree, etc., was entered in said cause in words and figures following, to wit:

On motion of both parties and in pursuance of the stipulation herein filed it is ordered by the court that the interlocutory decree and reference to the master heretofore entered in said cause be set aside and defendants allowed to answer and take proofs the same as if such decree and reference had not been made.

It is further ordered that the bill of complaint in said cause be amended by dismissing as to the said James W. Gaff and as to the complainants, John F. T. Holbeck and John H. Stromberg, and by introducing making a party defendant Rachel S. Gaff, the legal representative of the said James W. Gaff, deceased, so that the suit shall stand and proceed in the name of Matthew Gottfried alone, as complainant, and Rachel S. Gaff, the legal representative of the said James W. Gaff, deceased, and Samuel D. Langtree, as defendants, and that such amendment be made by withdrawing the bill
45 of complaint now on file and filing a new one as a substitute therefor.

Inasmuch as these matters are omitted from the transcript of the record made up by the clerk, we hereby agree that this stipulation and everything herein contained shall be attached to said transcript and made a part thereof.

We also hereby stipulate and agree that all stipulations as to matters of fact appearing of record in this cause or in Gottfried *vs.* Cresent Brewing Company or Gottfried *vs.* Hack and Simon shall be considered and treated as applicable to any or all of said causes, and that the master's report, exceptions thereto, and all proceedings thereon, as appearing in the transcript in said Crescent Brewing Company case, which were filed and had in all three of said causes in the court below, shall be treated upon appeal as if appearing in each of said transcripts.

It is further agreed that in case of a reversal of the decree by the Supreme Court in one or more of said three causes above named, and an affirmance thereof in the other one or two, all the taxable costs of all three of said appeals—costs of making up the transcripts, printing the records, clerks' fees, &c.—shall be apportioned equally—that is, one-third to each case, and paid or collected accordingly.

It is further stipulated that the appellee waives the issuance of any citation and will enter his appearance in the Supreme Court in each of said causes.

PARKINSON & PARKINSON,
Counsel for Appellants.
BANNING & BANNING,
Counsel for Appellee.

46 [Endorsed:] Sup. Court U. S. 1885. October term. No. 959. Rachel S. Gaff, ex., &c., app'ts, *vs.* Matthew Gottfried. Stipulation in regard to record.

[Stamped:] Office Supreme Court U. S. Filed Sep. 19, 1885. James H. McKenney, clerk.

Endorsed on cover: Indiana C. C. U. S. No. 295. Rachel S. Gaff, executrix of James W. Gaff, deceased, & Samuel D. Langtree, appellants, *vs.* Matthew Gottfried. Filed September 19, 1885.

of Aurora, Indiana, appearance shall be entered and answer filed in behalf of said company without service.

Fifth. That complainants may use the deposition of James R. Vail, already taken in said cause No. 6454, and in said suit against
43 the Crescent Brewing Co., as well for the purpose of his *prima facie* case as on account, if any account shall hereafter be ordered, to have the same effect and with the same right of objection to relevancy and competency as if said deposition had been duly taken after the issues had been made up in said causes.

Sixth. Defendants shall close their proofs, as well in said cause against the Crescent Brewing Company as in said cause No. 6454, within — days after the complainants' *prima facie* case is closed: Provided, however, That if the complainants shall not at the time of closing said *prima facie* evidence have closed their *prima facie* case in the several suits on the same patent, now pending in the southern district of Ohio, in which their *prima facie* evidence has been already partly taken, the said — days shall run from the time of closing said last-named evidence. Any evidence taken in either of said causes now pending in the southern district of Ohio within the said — days may be used by a copy, either printed or written, as a part of the record in these causes with the same effect as if duly taken and entitled therein.

Seventh. That complainants shall have twenty days in which to take rebutting evidence after defendants have closed their evidence.

Eighth. That both sides shall unite in asking Judge Gresham or Judge Drummond to hear the said causes in twenty days after defendants have closed their evidence in rebuttal.

Ninth. That the bill of complaint in said cause No. 6840 shall be amended by dismissing as to said Holbeck; that within ten days of notice to said attorneys for defendants of said amendment an answer shall be filed therein, and that thereupon said cause shall abide the result of said cause No. 6454, remaining *in statu quo* until the
44 determination in the circuit court of said cause No. 6454, and a similar interlocutory decree be entered in each, but any appeal to be taken shall be taken in each separately, the evidence taken in either cause prior to the interlocutory decree to be treated, for the purpose of appeal, as in all the cases, and a copy thereof to the be used for the record on appeal.

BANNING & BANNING,
Solicitors for Complainants.
PARKINSON & PARKINSON,
Solicitors for Defendants.

6. That afterwards, to wit, on the 23rd day of March, A. D. 1881, an order setting aside said decree, etc., was entered in said cause in words and figures following, to wit:

On motion of both parties and in pursuance of the stipulation herein filed it is ordered by the court that the interlocutory decree and reference to the master heretofore entered in said cause be set aside and defendants allowed to answer and take proofs the same as if such decree and reference had not been made.

It is further ordered that the bill of complaint in said cause be amended by dismissing as to the said James W. Gaff and as to the complainants, John F. T. Holbeck and John H. Stromberg, and by introducing making a party defendant Rachel S. Gaff, the legal representative of the said James W. Gaff, deceased, so that the suit shall stand and proceed in the name of Matthew Gottfried alone, as complainant, and Rachel S. Gaff, the legal representative of the said James W. Gaff, deceased, and Samuel D. Langtree, as defendants, and that such amendment be made by withdrawing the bill
45 of complaint now on file and filing a new one as a substitute therefor.

Inasmuch as these matters are omitted from the transcript of the record made up by the clerk, we hereby agree that this stipulation and everything herein contained shall be attached to said transcript and made a part thereof.

We also hereby stipulate and agree that all stipulations as to matters of fact appearing of record in this cause or in Gottfried *vs.* Cresent Brewing Company or Gottfried *vs.* Hack and Simon shall be considered and treated as applicable to any or all of said causes, and that the master's report, exceptions thereto, and all proceedings thereon, as appearing in the transcript in said Crescent Brewing Company case, which were filed and had in all three of said causes in the court below, shall be treated upon appeal as if appearing in each of said transcripts.

It is further agreed that in case of a reversal of the decree by the Supreme Court in one or more of said three causes above named, and an affirmance thereof in the other one or two, all the taxable costs of all three of said appeals—costs of making up the transcripts, printing the records, clerks' fees, &c.—shall be apportioned equally—that is, one-third to each case, and paid or collected accordingly.

It is further stipulated that the appellee waives the issuance of any citation and will enter his appearance in the Supreme Court in each of said causes.

PARKINSON & PARKINSON,
Counsel for Appellants.
BANNING & BANNING,
Counsel for Appellee.

46 [Endorsed:] Sup. Court U. S. 1885. October term. No. 959. Rachel S. Gaff, ex., &c., app'ts, *vs.* Matthew Gottfried. Stipulation in regard to record.

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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1887.

No. 296 37

EUGENE HACK AND ANTON SIMON, APPELLANTS,

vs.

MATTHEW GOTTFRIED.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF INDIANA.

FILED SEPTEMBER 19, 1885.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1887.

No. 296.

EUGENE HACK AND ANTON SIMON, APPELLANTS,

vs.

MATTHEW GOTTFRIED.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF INDIANA.

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JUDD & DETWEILER, PRINTERS, WASHINGTON, AUGUST 25, 1887.

1 Pleas of the circuit court of the United States for the district of Indiana, begun and holden at the United States court-house, in the city of Indianapolis, on the first Tuesday of November, in the year of our Lord one thousand eight hundred and eighty-four, before the Honorable William A. Woods, judge of the district court of the United States for the district of Indiana and *ex officio* judge of said circuit court.

MATTHEW GOTTFRIED
v.
EUGENE HACK and ANTON SIMON. } 6840. Chancery.

Be it remembered that heretofore, to wit, at the November term, 1880, of said court, on the 23d day of March, 1881, before the Honorable Walter Q. Gresham, one of the judges of said court, the following proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Banning and Banning, his solicitors, and files his bill of complaint herein in the words following, to wit:

2 To the honorable the judges of the circuit court of the United States for the district of Indiana:

Matthew Gottfried, of the city of Chicago, in the State of Illinois, and a citizen of the State of Illinois, brings this his bill of complaint against Eugene Hack and Anton Simon, doing business under the firm name and style of Hack & Simon, of the city of Vincennes, in the State of Indiana, and citizens of the State of Indiana, and thereupon your orator complains and says—

I. That prior to the third day of May, 1864, your orator and one John F. T. Holbeck were the original and first inventors and discoverers of a new and useful improvement in pitching barrels, not known or used by others before their invention thereof, and which had not at the time of their application for a patent therefor been in public use or on sale for more than two years, as your orator verily believes; and that upon due application letters patent of the United States, No. 42580, in due form, were issued to your orator and the said Holbeck, dated the said third day of May, 1864, granting to them, their heirs, administrators, or assigns, for the term of seventeen years the full and exclusive right of making, using, and vending to others to be used, the said invention, as by reference to the said letters patent here in court to be produced, and a copy of which is hereto attached and made a part of this bill, will more fully appear.

3 II. That by virtue of the premises and written assignments, given for good and valuable considerations and duly executed and recorded, your orator became and now is the sole and exclusive owner of the entire right, title, and interest in and to said letters patent and in and to all claims for damages occasioned by infringements thereof, and for gains, profits, savings, and advantages made or received by others by reason of such infringements, and is by law entitled to sue for and receive said claims to his own use.

III. That on the fourth day of October, 1877, your orator and the said Holbeck filed their bills of complaint against Frank Bartholomae and Bernard Roesing, Peter Fortune, and John Fortune, and Peter Schoenhofen, respectively, in the circuit court of the United States for the northern district of Illinois, setting forth the said letters patent and the infringement thereof by said defendants and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills denying, among other things, the validity of said letters patent and setting up that your orator and the said Holbeck were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and publicly used by others in this country long prior to the date of their invention; that issues being joined and proofs taken at length and for a long time all of said causes were brought to a hearing on their merits on the eighth day of May, 1878, before his honor, Judge Henry W. Blodgett, and were argued before him by the counsel for your orator and said parties, respectively, and were afterwards held under advisement by said judge until the 24th day of June, 1878, when judgment was duly pronounced, and that said court then decided, among other things, that the said letters patent were good and valid in law, and that your orator and the said Holbeck were the original and first inventors and discoverers of the said invention patented as aforesaid, and by decrees entered of record in two of said causes (a special arrangement being made by counsel as to the other) perpetually enjoined the said defendants, Bartholomae and Roesing and Fortune Bros., from using the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed; that on the 6th day of January, 1879, on the application of the defendants, said decrees were set aside and all of said defendants allowed to make further defense, and that amended answers were afterwards filed setting up additional defenses and new proofs taken at length and for a long time in each of said causes.

That on the 3d day of June, 1878, your orator and the said Holbeck filed their bill of complaint against Valentine Blatz, and on the 9th of August, 1878, their bills of complaint against The Philip Best Brewing Company, The Joseph Schlitz Brewing Company, and Jacob Obermann and Max Fueger, respectively, in the circuit court of the United States for the eastern district of Wisconsin, setting forth the said letters patent and the infringement thereof by the said defendants and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills denying, among other things, the validity of said letters patent and setting up that your orator and the said Holbeck were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and used by others in this country long prior to the date of their invention; that issues being joined and proofs taken at length and for a long time all of said seven causes above named were brought to a hearing on their

merits on the 12th day of June, 1879, and were heard and argued together before his honor, Judge Charles E. Dyer; that the said hearing and arguments were very full and exhaustive and lasted five days; that said causes were afterwards held under advisement by said judge until the first day of December, 1879, when judgment was duly pronounced; and that said court, in a very long and full opinion, then decided, among other things, that said letters patent were good and valid in law, and that your orator and the said Holbeck were the original and first inventors and discoverers of the invention patented as aforesaid, and by decrees, entered of
6 record, perpetually enjoined all of said defendants from using the said patented invention and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed; all of which will more fully appear by a reference to the opinions of said judges and the record of the proceedings in said suits, the first of which opinions is published in vol. 13 of the Official Gazette of the Patent Office, page 1,128, and the second in vol. 17 of said Official Gazette, page 675.

That after said decisions the said The Philip Best Brewing Company, The Joseph Schlitz Brewing Company, Valentine Blatz, and Jacob Obermann and Max Fueger, acquiescing therein and in the validity of said patent, settled with your orators for their past infringement and purchased licenses for the future use of said patented invention and paid your orators therefor a large sum of money amounting to many thousands of dollars; and that thereupon final decrees were entered in the suits against them, respectively, from which no appeals have ever been taken.

IV. That since the granting of said letters patent and at divers times and occasions between that time and the filing of this your orator's bill Eugene Hack and Anton Simon, the defendants herein, well knowing the premises and in infringement of said letters patent and in violation of the exclusive rights of your orator there-
7 under and without the license of your orator or the said Holbeck, or any one ever interested in said patent, at Vincennes, Indiana, to wit, at the district aforesaid, have used and still continue to use the said invention patented as aforesaid, whereby great injury has resulted to your orator and great gains and profits have accrued to the said defendants, the full amount of which is unknown to your orator, but which in equity belong to him and should be accounted for by the said defendants and paid over to your orator as the avails of his exclusive rights aforesaid and profits and gains which he would have derived therefrom but for the unlawful acts of the said defendants.

V. That your orator has no adequate remedy in the premises, save in a court of equity where matters of this nature are properly cognizable.

Wherefore your orator prays—

1. That the defendants may answer the premises and may fully disclose the number of pitching machines they are using and have used, how long they have used such machines, the name thereof, by whom the same were manufactured, and by whom and when pat-

ented, and whether in such machine or machines the air is heated by its being forced through or in contact with the fire on its passage from the blower to the cask or barrel to be pitched, and, if not, how it is heated, stating fully the construction and operation of the machine.

2. That the defendants, their agents, attorneys, servants,
8 and workmen, and each and every of them, may be restrained and enjoined, as well preliminarily and provisionally as perpetually, from such infringement of said letters patent.

3. That the defendants may render to your orator a true account of the number of casks, barrels, or kegs which they have pitched or heated for pitching by the use of a blast of heated air forced into such casks, barrels, or kegs, and of the gains, profits, and benefits derived therefrom, and may be decreed to pay over to your orator any and all of the gains, profits, and savings and advantages, to be duly determined, made, derived, or received by the said defendants from the use of said patented invention and in violation of your orator's rights as aforesaid, and all damages resulting to your orator from the use by the said defendants of the said patented invention, together with such increase over the actual damages suffered as is warranted by law and may seem to your honors just and proper.

4. And that your orator may have such other and further relief in the premises as may be agreeable to equity and good conscience and as to your honors shall seem meet.

To this end may it please your honors to grant unto your orator—

1. The writ of subpœna issued out of and under the seal of this honorable court directed to the said defendants, Eugene Hack and Anton Simon, commanding them, by a certain day and under
9 a certain penalty, to be and appear in this honorable court, and then and there to answer the premises and stand to and abide by such order and decree as may be made against them.

2. The writ of injunction, as well preliminary and provisional as perpetual, issuing out of and under the seal of this honorable court, enjoining and restraining the said defendants, Eugene Hack and Anton Simon, their agents, attorneys, servants, and workmen, and each and every of them, as is heretofore in that behalf prayed.

And your orator will ever pray, etc.

MATTHEW GOTTFRIED.

BANNING & BANNING,
Solicitors for Complainant, 60 & 61 Honore Building, Chicago.
THOMAS A. BANNING,
Of Counsel.

Copy of Patent Mentioned in Foregoing Bill.

No. 42580.

The United States of America to all whom these letters patent shall come:

Whereas J. F. T. Holbeck and Matthew Gottfried, of Chicago, Illinois, have alleged that they have invented a new and useful im-

proved mode of pitching barrels, which they state has not been known or used before their application; have made oath that they are citizens of the United States; that they do verily believe
10 that they are the original and first inventors or discoverers of the said invention, and that the same hath not, to the best of their knowledge and belief, been previously known or used; have paid into the Treasury of the United States the sum of thirty-five dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said invention, and praying that a patent may be granted for that purpose:

These are, therefore, to grant, according to law, to the said Holbeck and Gottfried, their heirs, administrators, or assigns, for the term of seventeen years from the third day of May, one thousand eight hundred and sixty-four, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said invention, a description whereof is given in the words of the said Holbeck and Gottfried in the schedule hereto annexed, and is made a part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this third day of May, in the year of our Lord one thousand eight hundred and sixty-four, and of the Independence of the United States of America the eighty-eighth.

[L. S.]

J. P. USHER,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

D. P. HOLLOWAY,
Commissioner of Patents.

11 *The Schedule Referred to in these Letters Patent and Making Part of the Same.*

To all whom it may concern:

Be it known that we, J. F. Th. Holbeck and Matthew Gottfried, both of Chicago, county of Cook and State of Illinois, have invented a new and useful improvement in pitching barrels, etc., and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section taken in a vertical plane through the center of the apparatus which we employ in the operation of pitching barrels, etc. Figure 2 is a horizontal section taken in the course indicated by red line *x x* in figure 1. Figures 3 and 4 are views of the tubular closing guard which is applied to the barrels or casks in the operation of heating them. Similar letters of reference indicate corresponding parts in the several figures.

Before filling casks with spirituous or volatile liquids it is necessary to render the casks impervious to air, the most common, and

probably the cheapest, method of doing which has been to flow melted pitch or other substance into the pores and joints of the casks while they are in a heated state; but the difficulties hitherto attending this process arise in consequence of a want of some economical means of heating the casks without burning or seriously charring their inside surfaces.

12 My invention has for its object the preparation of casks for receiving pitch, or other melted substance suited to the object in view, by subjecting said casks to blasts of highly-heated air by means of an apparatus which will be hereinafter described. To enable others skilled in the art to understand our invention we will describe its construction and operation.

In the accompanying drawings we have represented one mode of carrying our invention into effect, which consists of a furnace constructed of masonry, as represented by A, figures 1 and 2. This furnace is of a rectangular form and has a vertical central opening, A′, through it. Near the base of the furnace is a grate, *a*, beneath of which is the ash pit *b*, and above which is a fire chamber, *c*, which is covered by a lid, *c′*, as shown in figure 1.

An opening, *d*, is made through the side of furnace A, which forms an external communication with an internal chamber, A′, either below the grate or above this grate, as shown in figure 1. This opening *d* communicates with a fan case, B, arranged outside of the furnace and furnished with a series of rotary wings or fans, *e e*, which may be rotated by any convenient motive power.

The fans *e e* create a blast of air through the furnace chamber A′; this air, rushing through the opening *d* and through the fire which is built upon the grate *a*, is allowed to escape through the passage *d′*, near the top of the furnace.

13 Between this passage *d′* and the cask which it is desired to heat I form a communication by means of a detachable pipe, E, which connects with the short pipe E′ that is secured around the passage *d′* as shown in figures 1 and 2.

The removable pipe E may be made conical as represented, so that the opening through the head of the cask D need not be very large, and this pipe is provided with a bow handle, *g*, by means of which the pipe can be removed or adjusted in place without liability of burning the hands. The contracted end of pipe E enters a short tube, *h*, which passes through and is suitably affixed to a covering plate, *i*, that is used to close or partially close the opening *j* which is made through the head of the cask. This plate *i* should be somewhat larger than the opening through the head of the cask, and this opening should be of such form as to admit plate *i* and to allow of this plate being adjusted as represented in figure 1. When this plate *i* is adjusted on the inner side of the cask head, opposite the opening there through, it may be confined in place by means of a key, *k*, which is passed between a flange formed on the projecting outer portion of the short pipe *h* and the head of the cask, as represented in figures 1 and 2.

When a cask, which it is desired to render impervious to air, is adjusted in proper position and a communication formed between

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Stack Wal.
v.
Gottfried } p. 15

Holbeck & Gottfried,

Mode of Pitching Barrels.

No. 42,580. Patented May 3. 1864.

Fig. 1.

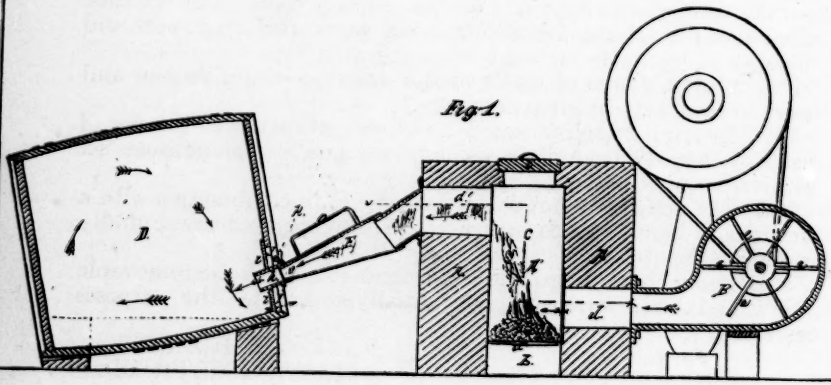
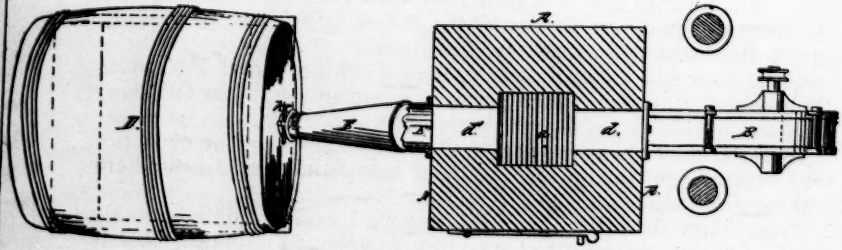


Fig. 4.

Fig. 2.



Witnesses.
R. T. Campbell.
O. Schaferd.

Inventor.
J. F. H. Holbeck
by his atty.
Mann Parrick & Lawrence

it and the furnace A, as above described, a fire is made
14 upon the grate *a* and by means of the blast fan applied to the furnace the heated products of combustion are forced into the cask and allowed to escape therefrom through an opening at the bottom of covering plate *i*, as indicated by the arrows in figure 1.

When the cask thus subjected has become properly heated, so that the resin substance within it will readily flow into the pores and cracks or joints in the wood, the parts *i* and E are removed, the opening through the head of the cask properly closed, and the cask rolled about until the melted resin has permeated every pore and interstice in its inside surface.

Having thus described our invention, what we claim as new and desire to secure by letters patent is—

1st. The application of heated air under blast to the interior of casks by means substantially as described and for the purposes set forth.

2nd. The use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described.

3rd. The tube holding plate *i* in combination with the removable pipe E and blast furnace A, substantially as and for the purposes described.

J. F. TH. HOLBECK.
MATH. GOTTFRIED.

Witnesses:
CHAS. H. BARMM.
M. FLEMING.

(Here follows diagram marked p. 15.)

16 And afterwards, to wit, at the November term of said court, on the 28th day of March, 1881, before the Honorable Walter Q. Gresham, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson and Parkinson, their solicitors, and file their answer herein in the words following, to wit:

These defendants, reserving to themselves all rights of exception and objection to said amended bill of complaint, for answer thereunto say as follows:

First. They deny that the said Gottfried and Holbeck were the original or first inventors of any improvement in pitching barrels, as set forth in said amended bill of complaint; deny that the alleged improvement had not been in public use and on sale for more than two years prior to the application for a patent therefor, and deny that said alleged improvement or any exclusive rights therein was secured to them by or under the patent set forth in said amended bill or by any assignment of or under said letters patent.

Second. They are informed and believe and therefore allege that the complainant has since the issue of said patent divested himself

by lawful assignments of all title thereunder, but are not informed whether the same has been reassigned to him or whether he is now vested with said title, and therefore deny the same; and further deny that he is entitled to any damages occasioned by infringement of said patent, or any gains, profits, savings, or advantages
17 made or received by reason thereof, or is entitled to sue for or receive the same.

Third. They deny that the said patent is good or valid; deny that the public generally acquiesced in the validity thereof; deny that any money, profit, or advantage has been lawfully realized by licenses, settlements, recoveries, or otherwise under said patent, and allege that all money and profit which has been obtained thereby has been wrongfully extorted by threats of expensive and vexatious litigation and by misrepresentations as to the validity of said patent.

As to the several suits against other parties recited in said amended bill of complaint they have no specific information and leave the complainant to make such proof thereof as he may be able, denying, however, that they are affected thereby, and denying that the defenses available against said patent were fully exhibited or passed upon in either of said suits.

Fourth. They deny that they have at any time violated any right of the complainant; deny that they have used or are using any invention embraced in said patent or any invention patented, as alleged in said amended bill of complaint; deny that any injury has resulted to the complainant or any gain or profit accrued to these defendants which belong to the complainant or which he has been prevented from deriving by any wrongful act of these defendants.

Fifth. They deny that the alleged improvement in pitching
18 barrels, described and claimed in said patent, involved patentable invention.

Sixth. They deny that said Gottfried and Holbeck were joint inventors of the same or any part thereof.

Seventh. They say, on information and belief, that said Gottfried and Holbeck were not the original or first inventors of the alleged improvement in pitching barrels for which said letters patent are or purport to be granted or of any material or substantial part thereof; that the same had been shown and described in letters patent and printed publications and works and had been in public use and on sale in this country prior to their supposed invention and discovery thereof; that the same had been abandoned to the public; that for many years since the issue of said patent to Gottfried and Holbeck machines similar in construction and in mode of operation to those now and heretofore used by these defendants and by the use of which they are charged with infringement in said amended bill of complaint have been commonly manufactured, used, and sold throughout this country by many different persons with the full knowledge of the complainant and without his asserting or pretending to have any exclusive right thereto, having the same title then as now under said letters patent; that these defendants and the public generally have thereby been led to suppose, and have up to about the time

the amended bill of complaint herein was filed supposed, that
19 they had the right to make, use, and sell said machines and that the complainant fully recognized and accorded said right and made no claim to any exclusive right therein; that said complainant has thereby become estopped from asserting any exclusive right in or to any of said machines or the processes for which they are and have been used, and all title thereto would thus be abandoned to the public, if any such title ever had been vested in him by said letters patent.

Eighth. That said alleged improvements were, prior to the alleged invention thereof by Gottfried and Holbeck, described and shown in the following letters patent and printed publications, to wit:

English letters patent No. 12918, to Cochrane and Slate, granted and dated January 3d, 1850.

English letters patent No. 9924, to Robert Davison and William Symington, granted and dated November 2d, 1843.

English letters patent No. 6901, to Charles Pierre Deveaux, granted and dated October 8th, 1835.

English letters patent No. 5701, to James Beaumont Nelson, granted and dated September 11th, 1828.

English letters patent No. 11067, to George Hinton Bovill, granted and dated January 31st, 1846.

English letters patent No. 4253, to Sir Thomas Coleman
20 and Alexander Galloway, granted and dated May 4th, 1818.

English letters patent No. 83, of 1854, to Bellford, granted and dated January 12th, 1854, sealed May 26th, 1854.

English letters patent No. 435, of 1859, to John J. Russell, granted and dated February 16th, 1859.

English letters patent No. 183, of 1860, to Isaac L. Bell, granted and dated January 24th, 1860.

English letters patent No. 71, of 1857, to John J. Russell, granted and dated March 28th, 1857.

Tomlinson's Cyclopedia of Useful Arts, published by George Virtue and Company, London and New York, 1854. .

Volume 2, page 665, figure 2025.

Handbuch für Bier-Brauer von P. Mueller. Druch and Verlag von Friedrich Vieweg und Sohn. Braunschweig, 1854.

(Received in the library of the United States Patent Office, at Washington, D. C., March 12th, 1855.)

Page 116 to foot of page 118.

Ninth. That said alleged improvements were prior to the alleged invention thereof by Gottfried and Holbeck known to and publicly made, used, and sold in the United States by the following named persons, to wit:

Known and publicly used at the Eureka Iron Company's works, in Wyandotte, Michigan, and at the Richmond Iron Furnace, Berkshire county, Massachusetts, by the following persons, among others, viz:

21 Warren Brinton, now residing at Bay View, Wisconsin; J. J. Hagerman and S. D. Arnold, both now residing at Milwaukee, Wisconsin; George Coffin and Walter Lovelace, both now

residing at Richmond aforesaid, and Charles Lovelace, now residing at Depere, Wisconsin.

Known and publicly used at the Rockland Brewery and elsewhere in New City, Rockland county, New York, and in Clarkstown, in said county and State, by Joseph Beck, who now resides in the city of New York, in said State, and by Albrecht Becker, who now resides in the city of Brooklyn, in said State.

Known and publicly made, used, and sold in the city of St. Louis, Missouri, by Conrad Seibel, who now resides and may be found at 810 South Second St., in said St. Louis.

Known and publicly used in said St. Louis by Christian Staehlin, Julius Winklemeyer, and Julius Winklemeyer and Co., Joseph Schneider, John G. Zoller, John G. Zoller & Co., the Star Brewery, William J. Lemp, Schuer's brewery, and many others, which said persons and companies now reside in said St. Louis.

Tenth. They say that said patent does not describe or show a useful or successfully operative machine, and that said machine has never been made, used, or sold by the complainant or others as there shown, and that the machines and all the machines that have been made, sold, or used by complainant and others purporting to be made under said patent and marked thereunder and now
22 sought to be covered thereby were first introduced to the market by other parties and are only valuable, useful, and saleable by reason of features not shown or described in said patent.

All of which things these defendants are ready to maintain and prove as this honorable court shall direct; and they pray to be hence dismissed with their costs in this behalf sustained.

EUGENE HACK.
ANTON SIMON.

PARKINSON & PARKINSON,
Sol's and Counsel for Def'ts.

UNITED STATES OF AMERICA, }
State of Indiana, County of Knox, } *ss:*

This twenty-fourth day of March, 1881, personally appeared Eugene Hack and Anton Simon, defendants above named, and, being by me duly sworn, depose and say that they have read the foregoing answer by them subscribed and know the contents thereof, and that the same is true, to the best of their knowledge and belief.

—— ——.

Subscribed and sworn to before me this twenty-fourth day of March, 1881.

[SEAL.]

JEROME CONVERY,
Notary Public, Knox County, Indiana.

And afterwards, to wit, at the May term of said court, on
23 the 23d day of September, 1882, before the Honorable Walter Q. Gresham, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

This cause came on to be heard at this term and was argued by counsel; and thereupon, upon consideration thereof, it was ordered, adjudged, and decreed as follows, viz:

That said complainant and one John F. S. Holbeck were the original and first inventors and discoverers of the invention described and claimed in letters patent of the United States No. 42580, issued to them on the 3d day of May, 1864, for an improved mode of pitching barrels; that said letters patent are in all respects good and valid in law, and that the complainant is the exclusive owner thereof and entitled to sue for and receive all damages and profits arising out of or accruing from infringements thereof, as alleged in the bill of complaint herein.

That Eugene Hack and Anton Simon, the defendants herein, have infringed upon the said letters patent and upon the exclusive rights of the complainant under the same by using the invention therein described and claimed, as alleged in said bill.

That the complainant recover of said defendants the profits, gains, and advantages which the defendants have received or made or which have arisen or accrued to them from their infringement of said letters patent by the use of said patented invention as aforesaid, and also the damages which the complainant has sustained thereby.

24 That this cause be referred to William P. Fishback, Esq., one of the masters of this court, to take proofs and to ascertain and take and state and report to the court an account of the number of kegs, barrels, casks, and other vessels which the defendants have pitched or heated for pitching by the use of said patented invention and of the gains, profits, and advantages which the defendants have received or which have arisen or accrued to them from said infringement of said letters patent and use of said patented invention as aforesaid, and also of the damages which the complainant has sustained thereby; that upon such accounting the complainant have the right to cause an examination of the defendants, *ore tenus* or otherwise, and also the production of the books, vouchers, and documents of the defendants, and that the defendants attend for such purpose before said master from time to time as said master shall direct.

And the defendants, by their solicitors, now file their motion and reasons for a rehearing herein in the words following, to wit: * * * Which motion is overruled.

And afterwards, to wit, at the May term of said court, on the 28th day of September, 1882, in recess thereof, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants in the above-entitled cause, by Mess. Parkinson and Parkinson, their solicitors, and file their motion for rehearing in the above cause in the words following, to wit:

25 Now come the defendants herein and move the court to set aside the decree heretofore entered and for a rehearing and reversal of its order for a final decree last made herein for the reason—

First. That the court erred in ordering a final decree upon *ex parte* affidavits.

Second. That the court erred in reversing its order heretofore made for a decree dismissing the bill.

Third. That the court erred in finding that there was any patentable novelty in the Gottfried machine.

Fourth. That the court erred in overlooking the machine known in evidence as the "Pewterer's blast," the "Devaux machine," and other anterior machines, in misconstruing the Cochran and Slate patent, and in finding that the machine shown and claimed in complainant's patent possessed any patentable novelty as compared with these earlier machines.

Fifth. That the court erred in that it did not find that the first claim of complainant's patent, being for the process, was invalid, the court having found that the process was not novel.

Sixth. That the court erred in that it did not find that there was no infringement of either the second or third claims.

Seventh. That the court erred in ordering a decree for injunction and account upon a patent long since expired.

26 Eighth. That the court erred in that it did not find that the patent having expired before the submission of the cause it had no jurisdiction as a court of equity to award either an injunction or account or other relief.

Ninth. That the court erred in that it did not find that the patentee having unreasonably neglected and delayed to disclaim the process claim of his patent was not entitled to any relief whatever in this case.

Tenth. That the court erred in that it did not find that the complainant had no sufficient title under the patent sued upon to maintain this suit.

Eleventh. That the decree herein was entered without notice to the defendants and without opportunity to object to the form and substance thereof.

Twelfth. That the decree entered herein finds infringement of complainant's patent generally, without specifying any particular claims thereof, whereas there was no evidence which, upon the broadest construction of the patent, tended to prove the infringement of any other than the "process" claim, which said claim was held, in the opinion of the court, to be incapable of being sustained as a process claim.

Thirteenth. For that if the patent is construed as a patent for a machine as the court now construes it the record shows that there is no infringement.

Fourteenth. For that the decree recites the case to have
27 been argued by counsel during the present term, whereas there has been no argument by counsel during the term, unless it be by the counsel directly or indirectly representing complainant, without notice to defendants.

Fifteenth. For that the court erred in hearing *ex parte* affidavits upon an issue raised by demurrer to the complainant's petition for rehearing and in entering a final decree upon a finding based upon

such *ex parte* affidavits and in overlooking other defences in the case than those to which said *ex parte* affidavits particularly related.

PARKINSON AND PARKINSON,
For Defendants.

And afterwards, to wit, at the May term of said court, on the 7th day of October, 1882, before the Honorable Walter Q. Gresham, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

This cause having been heretofore argued by the counsel of the respective parties and an opinion delivered by the court finding the equities in favor of the defendants, and a petition for a rehearing having been filed by the plaintiff and demurred to by the defendant and argued by the counsel of the respective parties, and another opinion delivered by the court finding the equities this time in favor of the plaintiff, and a petition for a rehearing having been filed by the defendant and overruled by the court, and a decree entered in favor of the plaintiff, and another motion for a rehearing and to set aside said decree having been filed by the defendants and argued by its counsel, the court declining to hear arguments for the plaintiff, and the court, being sufficiently advised thereon, doth now order, adjudge, and decree that said motion for a rehearing and to set aside said decree filed by the defendant be, and the same is hereby, overruled, and that said decree stand affirmed; and, further, that said decree be, and is hereby, amended so as to adjudge and decree that the plaintiff's patent, No. 42580, is good and valid in law as to its first and second claims, and that the defendants have only infringed said first and second claims, the third claim of said patent not being now in controversy.

28

And afterwards, to wit, at the November term of said court, on the 16th day of November, 1883, before the Honorable William A. Woods, one of the judges of said court, the following further proceedings in the above-entitled cause were had, to wit:

Comes now William P. Fishback, Esq., master in chancery, and files his report and evidence in the above-entitled cause, and said master's report is in the words following, to wit: * * *

And afterwards, to wit, at the November term of said court, on the 21st day of November, 1883, before the Honorable William A. Woods, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson and Parkinson, their solicitors, and file their motion to strike the master's report herein from the files, and said motion is in the words following, to wit: * * *

29

And afterwards, to wit, at the November term of said court, on the 3d day of December, 1883, before the Honorable William A. Woods, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

Comes now the complainant, by Mess. Banning and Banning, his solicitors, and the defendants, by Mess. Parkinson and Parkinson;

and thereupon the court, being sufficiently advised, doth now overrule the motion of the defendants filed herein on the 21st day of November, 1883, to strike the master's report herein from the files; to which ruling of the court in overruling said motion the defendants, by their solicitors, now here except.

And afterwards, to wit, at the November term of said court, on the 14th day of December, 1883, before the Honorable William A. Woods, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson and Parkinson, their solicitors, and file their exceptions to the report of the master herein in the words following, to wit: * * *

And afterwards, to wit, at the November term of said court, on the 5th day of December, 1884, before the Honorable William A.
30 Woods, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

This cause coming on to be heard upon the exceptions filed by the defendants to the report of William P. Fishback, Esq., the master to whom this cause was referred, which report is dated the 16th day of November, 1883, and by which it appears that there is due from the defendants to the complainant the sum of seven hundred dollars ($700) for the infringement by the defendants of letters patent of the United States No. 42580, issued to Gottfried and Holbeck May 3d, 1864, for an improved mode of pitching barrels—

It is thereupon, upon consideration thereof, ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that all said exceptions to said master's report be, and the same are hereby, overruled, and that said report do stand, in respect to amount of damages found due the complainant, ratified and confirmed.

It is further ordered, adjudged, and decreed, and the court doth hereby order, adjudge, and decree, that the said defendants pay to the said complainant the sum of seven hundred dollars ($700) and also the costs of suit, to be taxed herein at $—, and that the complainant have execution therefor.

It is further ordered that William P. Fishback, Esq., be allowed $— in full for his services as master in this cause, the same
31 to be taxed and collected as other costs.

And afterwards, to wit, at the November term of said court, on the 8th day of December, 1884, before the Honorable William A. Woods, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson & Parkinson, their solicitors, and file their motion for appeal in the above-entitled cause in the words following, to wit: * * *

And at the same time said defendants also file their motion to stay the entry of the decree herein in the words following, to wit:

Now come the defendants herein and move the court to stay the entry of final decree pending an appeal in the case of the same com-

plainant *vs.* Crescent Brewing Company, now pending in this court, and for reason of said motion shows as follows, to wit:

That the questions in controversy in the said cause are in all material respects the same; that the record therein is in all material respects the same; that a determination of the questions in issue in either of said causes will be determinate of the other of said causes, and that an appeal of each of said causes entail upon the parties great and unnecessary expense without material benefit to either of the said parties.

PARKINSON & PARKINSON,
For Defendants.

32 And afterwards, to wit, at the November term of said court, on the 20th day of January, 1885, before the Honorable William A. Woods, judge as aforesaid, the following further proceedings in the above-entitled cause were had, to wit:

Come now the defendants, by Mess. Parkinson and Parkinson, their solicitors, and withdraw their motion filed on the 8th day of December, 1884, to stay the entry of the decree herein, and file their prayer for appeal herein in the words following, to wit:

Now come the defendants herein and by leave of the court withdraw their motion to stay the entry of decree, and move the court to allow an appeal.

PARKINSON & PARKINSON,
Counsel for Defendants.

And the court doth allow said appeal; whereupon the defendants file their appeal bond herein in the sum of one thousand dollars, with John Ebner and Benedict Fritsche as sureties thereon, which is approved by the court.

At the same time come the parties, by their solicitors, and file their stipulation herein in the words following, to wit:

The record and evidence in the above-entitled causes being in all respects the same, except as to the pleadings and special matters covered by stipulations or orders of court—

It is hereby stipulated and agreed that in making up a transcript of the record for the Supreme Court the clerk shall simply
33 copy and certify up the evidence in the first of the above-entitled causes and the pleadings, orders of court, stipulations, appeal bonds, and other special matters in the other two, making his certificate properly conform to this stipulation, and that the evidence so certified in the first of said causes shall be used in the hearing of all of said causes in the Supreme Court with like effect as if separately certified as a part of the transcript of each of said causes.

BANNING & BANNING,
Solicitors for Complainants.
PARKINSON & PARKINSON,
Solicitors for Defendants.

Copy of Appeal Bond.

Know all men by these presents that we, Eugene Hack, Anton Simon, principals, John Ebner and Benedict Fritsch, sureties, are held and firmly bound unto Matthew Gottfried, of Chicago, Illinois, in the sum of one thousand dollars, to be paid to the said Matthew Gottfried, his executors or administrators; to which payment, well and truly to be made, we bind ourselves and each of us, jointly and severally, and our and each of our heirs, executors, and administrators, firmly by these presents.

Sealed with our seals. Dated this 30th day of December, 1884.

Whereas the above-named Eugene Hack and Anton Simon have prayed an appeal to the Supreme Court of the United States to reverse the decree rendered in the above-entitled action by
34 the circuit court of the United States for the district of Indiana:

Now, therefore, the condition of this obligation is such that if the above-named Eugene Hack and Anton Simon shall prosecute said appeal to effect and answer all damages and costs if they shall fail to make good their *they* plea, then this obligation to be void; otherwise to remain in full force and virtue.

EUGENE HACK. [SEAL.]
ANTON SIMON. [SEAL.]
JOHN EBNER [SEAL.]
BENEDICT FRITSCH. [SEAL.]

Sealed and delivered in presence of—
JOHN EBNER, JR.
CHARLES YOEHUNS.

The above security is approved.

W. A. WOODS,
Judge of the United States, District of Indiana.

STATE OF INDIANA, } ss:
County of Knox, }

Before me, a notary public, personally came John Ebner, who, upon his oath, says that he has real estate unincumbered to the amount of ten thousand dollars within the State of Indiana, of which he is owner in fee simple.

JOHN EBNER.

Subscribed and sworn to before me this 30th day of December, 1884.

35 JEROME CONVERY,
Notary Public, Knox Co., Ind.

STATE OF INDIANA, } ss:
County of Knox, }

Before me, a notary public, personally came Benedict Fritsch, who, upon his oath, says that he has real estate unincumbered to the amount of two thousand dollars within the State of Indiana, of which he is the owner in fee simple.

BENEDICT FRITSCH.

Subscribed and sworn to before me this 30th day of December, 1884.

JEROME CONVERY,
Notary Public, Knox Co., Ind.

1-12-'85.

The within bond is satisfactory to us, both as to form and sureties.

BANNING AND BANNING,
For Compl't.

36 UNITED STATES OF AMERICA, } ss:
District of Indiana, }

I, Noble C. Butler, clerk of the circuit court of the United States within and for said district, do hereby certify that the above and foregoing is a full and true transcript of the pleadings and entries, orders and decrees in the cause of Matthew Gottfried against Eugene Hack *et al.* as fully as the same remain upon the records and files now in my office.

Witness my hand and the seal of said court, at Indianapolis, in said district, this 29th day of April, A. D. 1885.

[Seal Circuit Court of the United States, District of Indiana.]

NOBLE C. BUTLER, *Clerk.*

Appeal from the Circuit Court of the United States for the District of Indiana.

37 Supreme Court of the United States.

EUGENE HACK *et al. vs.* MATTHEW GOTTFRIED.

The following facts and documents not appearing in the transcript of the record in this cause, made and certified by the clerk of the circuit court, we hereby stipulate and agree in relation thereto as follows:

1. That on, to wit, the 18th day of February, A. D. 1880, the complainants filed in the office of the clerk of said court their bill of complaint in the words and figures following, to wit:

To the honorable the judges of the circuit court of the United States for the district of Indiana:

Matthew Gottfried and John F. T. Holbeck, of the city of Chicago, in the State of Illinois, and citizens of the State of Illinois, bring this their bill of complaint against Eugene Hack and Anton Simon, copartners by the firm name of Hack and Simon, of the city of Vincennes, in the State of Indiana, and citizens of the State of Indiana; and thereupon your orators complain and say—

I. That prior to the third day of May, 1864, your orators were the original and first inventors and discoverers of a new and useful improvement in pitching barrels not known or used by others before their invention thereof, and which had not at the time of their application for a patent therefor been in public use or on sale for more than two years, as they verily believe; and that upon due applica-

tion letters patent of the United States, No. 42580, in due form, were issued to your orators, dated the said third day of May, 1864, granting to them, their heirs, administrators, or assigns, for the term of seventeen years, the full and exclusive right of making, using, and vending to others to be used, the said invention, as by reference to said letters patent, here in court to be produced and a copy of which is hereto attached and made a part of this bill, will more fully appear.

38 II. That by virtue of the premises and written assignments given for good and valuable considerations and duly executed and recorded your orators became and now are the sole and exclusive owners of the entire right, title, and interest in and to said letters patent—that is to say, your orator, Gottfried, is the sole and exclusive owner of the legal title to said patent, but that he holds a part thereof in trust for your orator, Holbeck, to secure the payment of certain moneys due him for the purchase of his interest therein; and that your orators are entitled to all the damages occasioned by infringements of said patent, and all the gains, profits, savings, and advantages made or received by others by reason thereof, and are by law entitled to sue for and receive the same to their own use.

III. That said letters patent are in all respects good and valid in law and the public generally acquiesce in the validity thereof, and that your orators have made many settlements and granted many licenses thereunder, and have received large amounts of money therefor.

That on the fourth day of October, 1877, your orators filed their bills of complaint against Frank Bartholomae and Bernard Roesing, Peter Fortune and John Fortune, and Peter Schoenhofen, respectively, in the circuit court of the United States for the northern district of Illinois, setting forth the said letters patent and the infringement thereof by said defendants and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bills, denying, among other things, the validity of said letters patent and setting up that your orators were not the first and original inventors and discoverers of the said invention, but that the same had been patented in England and known and publicly used by others in this country long prior to the date of their invention; that issues being joined

39 and proofs taken at length and for a long time all of said causes were brought to a hearing on their merits on the 8th day of May, 1878, before his honor, Judge Henry W. Blodgett, and were argued before him by the counsel for your orators and said parties, respectively, and were afterwards held under advisement by said judge until the 24th day of June, 1878, when judgment was duly pronounced; and that said court then decided, among other things, that the said letters patent were good and valid in law, and that your orators were the original and first inventors and discoverers of the said invention patented as aforesaid, and by decrees entered of record in two of said causes (a special arrangement being made by counsel as to the other) perpetually enjoined the said defendants, Bartholomae and Roesing and Fortune Bros., from using

the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed; that on the 6th day of January, 1879, on the application of the defendants, said decrees were set aside and all of said defendants allowed to make further defense, and that amended answers were afterwards filed setting up additional defenses and new proofs taken at length and for a long time in each of said cases.

That on the 3rd day of June, 1878, your orators filed their bill of complaint against Valentine Blatz, and on the 9th day of August, 1878, their bills of complaint against The Philip Best Brewing Company, The Joseph Schlitz Brewing Company, and Jacob Obermann and Max Fueger, respectively, in the circuit court of the United States for the eastern district of Wisconsin, setting forth the said letters patent and the infringement thereof by the said defendants and praying an account and injunction against them, respectively; that the said defendants afterwards filed their respective answers to said bill, denying, among other things, the validity of said letters
40 patent and setting up that your orators were inventors; that issues being joined and proofs taken at length and for a long time all of said seven causes above named were brought to a hearing on their merits on the 12th day of June, 1879, and were heard and argued together before his honor Judge Charles E. Dyer; that the said hearing and arguments were very full and exhaustive and lasted five days; that said causes were afterwards held under advisement by said judge until the first day of December, 1879, when judgment was duly pronounced, and that said court in a very long and full opinion then decided, among other things, that said letters patent were good and valid in law, and that your orators were the original and first inventors and discoverers of the said invention patented as aforesaid, and by decrees entered of record perpetually enjoined all of said defendants from using the said patented invention, and ordered accounts to be taken of the profits and damages due by reason of their infringements already committed; all which will more fully appear by a reference to the opinions of said judges and the record of the proceedings in said suits.

That after said decision the said The Philip Best Brewing Company, The Joseph Schlitz Brewing Company, Valentine Blatz, and Jacob Obermann and Max Fueger, acquiescing therein, and in the validity of said patent, settled with your orators for their past infringement and purchased licenses for the future use of said patented invention and paid your orators therefor a large sum of money amounting to many thousands of dollars, and that thereupon final decrees were entered in the cases against them, respectively, from which no appeals have ever been taken.

IV. That since the granting of said letters patent and at divers times and occasions between that time and the filing of this your orator's bill Hack and Simon, the defendants herein, well
41 knowing the premises, and in infringement of the said letters patent, and in violation of the exclusive rights of your orators thereunder, and without the license of your orators, or either of them, or any one ever interested in said patent, at Vincennes, Indiana, to

wit, at the district aforesaid, have used and still continue to use the said invention patented as aforesaid, whereby great injury has resulted to your orators and great gains and profits have accrued to the said defendants, the full amount of which is unknown to your orators, but which in equity belong to them and should be accounted for by the said defendants and paid over to your orators as the avails of their exclusive rights aforesaid and profits and gains which they would have derived therefrom but for the unlawful acts of the said defendants.

V. That your orators have no adequate remedy in the premises save in a court of equity, where matters of this nature are properly cognizable.

Wherefore your orators pray—

1. That the defendants may answer the premises and may fully disclose the number of pitching machines they are using and have used, how long they have used such machines, the names thereof, by whom the same were manufactured, and by whom and when patented, and whether in such machine or machines the air is heated by its being forced through or in contact with the fire, on its passage from the blower to the cask or barrel to be pitched; and, if not, how it is heated, stating fully the construction and operation of the machine.

2. That the defendants, their agents, attorneys, servants, and workmen, and each and every of them, may be restrained and enjoined, as well preliminarily and provisionally as perpetually, from such infringement of said letters patent.

42 3. That the defendants may render to your orators a true account of the number of casks, barrels, or kegs which they have pitched or heated for pitching by the use of a blast of heated air forced into such casks, barrels, or kegs and of the gains and benefits derived therefrom, and may be decreed to pay over to your orators any and all of the gains, profits, savings, and advantages to be duly determined, made, derived, or received by the said defendants from the use of said patented invention and in violation of your orators' rights, as aforesaid, and all damages resulting to your orators from the use by the said defendants of the said patented invention, together with such increase over the actual damages suffered as is warranted by law and may seem to your honors just and proper.

4. And that your orators may have such other and further relief in the premises as may be agreeable to equity and good conscience and as to your honors shall seem meet.

To this end may it please your honors to grant unto your orators—

1. The writ of subpœna issued out of and under the seal of this honorable court, directed to the said defendants, Eugene Hack and Anton Simon, commanding them, by a certain day and under a certain penalty, to be and appear in this honorable court, and then and there to answer the premises and stand to and abide by such order and decree as may be made against them.

2. The writ of injunction, as well preliminary and provisional as perpetual, issuing out of and under the seal of this honorable court

enjoining and restraining the said defendants, Eugene Hack
43 and Anton Simon, their servants, agents, attorneys, and workmen and each and every of them, as is heretofore in that behalf prayed.

And your orators will ever pray, etc.

MATTHEW GOTTFRIED.
JOHN F. T. HOLBECK.

BANNING & BANNING,
Solicitors for Complainants, 147 *Randolph St., Chicago.*
—— ——, *Of Counsel.*

UNITED STATES OF AMERICA.

STATE OF ILLINOIS, }
Cook County, Northern District of Illinois, } *ss:*

Matthew Gottfried, being duly sworn, upon oath says that he is one of the complainants named in the foregoing bill of complaint by him subscribed; that he has read the said bill and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters therein stated on information and belief, and as to these he believes it to be true, and that he verily believes that the said letters patent No. 42580 are in all respects good and valid, and that the title thereto is in the complainants, as stated in said bill.

MATTHEW GOTTFRIED.

Subscribed and sworn to before me this 17 day of February, A. D. 1880.

[N. S.] THOMAS A. BANNING,
Notary Public.

44 2. That on the same day, to wit, February 18, 1880, there issued out of the office of the clerk of said circuit court a subpœna, which, with the marshal's return thereon, was in the words and figures following, to wit:

UNITED STATES OF AMERICA, *District of Indiana:*

The President of the United States of America to the marshal of the district of Indiana, Greeting:

You are hereby commanded to summon Hack and Simon (brewers, Vincennes), citizens of and resident in the State of Indiana, if they be found in your district, to be and appear in the circuit court of the United States for the district of Indiana aforesaid, at Indianapolis, on the first Monday in April next, to answer a certain bill in chancery filed and exhibited in said court against them by Matthew Gottfried and John F. T. Holbeck, citizens of and resident in the State of Illinois; hereof they are not to fail under the penalty of the law thence ensuing; and have you then and there this writ.

Witness Honorable Morrison R. Waite, Chief Justice of the United States, this 18th day of February, A. D. 1880, and in the one hundred and 4th year of the Independence of the United States of America.

Attest: NOBLE C. BUTLER, *Clerk.*

Memorandum.

The said defendants are required to enter their appearance in this suit, in the clerk's office of said court, on or before the first Monday of April, 1880; otherwise the said bill may be taken *pro confesso.*

NOBLE C. BUTLER, *Clerk.*

45 DISTRICT OF INDIANA:

I received this writ at Indianapolis, in said district, at 10 o'clock. a. m., Feb. 18th, 1880, and served the same as follows: By reading to Eugene Hack and Anton Simon and handing each of them a true copy of this writ, at Vincennes, Ind., Feb. 26th, 1880.

WM. W. DUDLEY,
U. S. Marshal,
By W. G. BARNECLO, *Dep.*

3. That afterwards, to wit, on the 16th day of July, A. D. 1880, an interlocutory decree was entered in said cause in the words and figures following, to wit:

Come now the complainants, by Messrs. Banning & Banning, their solicitors, and it appearing to the court that the defendants had been duly served with process more than twenty days previous to the 1st Monday of April last, and that they have failed to plead, answer, or demur to the bill of complaint herein, and they, being now three times called, come not, but make default, it is thereupon ordered that the default of the said defendants be entered, and that the bill of complaint herein and the matters and things therein contained be taken as confessed and true.

That said complainants were the original and first inventors and discoverers of the invention described and claimed in letters patent of the United States No. 42580, issued to them on the third day of May, A. D. 1884, for an improved mode of pitching barrels; that said letters patent are in all respects good and valid in law, and that the complainants are the exclusive owners thereof, and entitled

46 to sue for and receive all damages and profits arising out of or accruing from infringements thereof, as alleged in the bill of complaint herein.

That Eugene Hack and Anton Simon, the defendants herein, have infringed upon the said letters patent and upon the exclusive rights of the complainants under the same by using the invention therein described and claimed, as alleged in said bill.

That the complainants recover of said defendants the profits, gains, and advantages which the defendants have received or made or which have arisen or accrued to them from their infringement of

said letters patent by the use of said patented invention as aforesaid, and also the damages which the complainants have sustained thereby.

That this cause be referred to William P. Fishback, Esq., one of the masters of this court, to take proofs and to ascertain and take and state and report to the court an account of the number of kegs, barrels, casks, and other vessels which the defendants have pitched or heated for pitching by the use of said patented invention, and of the gains, profits, and advantages which the defendants have received or which have arisen or accrued to them from said infringement of said letters patent and use of said patented invention as aforesaid, and also of the damages which the complainants have sustained thereby; that on such accounting the complainants have the right to cause an examination of the defendants *ore tenus* or otherwise, and also the production of the books, vouchers, and documents of the defendants, and that the defendants attend for such purpose before said master from time to time as the said master shall direct.

47 4. That afterwards, to wit, on the 23d day of March, A. D. 1881, a stipulation was filed in said cause in the words and figures following, to wit:

It is hereby agreed between the attorneys for complainants and defendants, respectively, in the above-entitled cause as follows:

First. That the decree heretofore entered in said cause shall be set aside.

Second. That the bill of complaint in said cause shall be amended by dismissing as to the complainant, John F. T. Holbeck, so that said cause shall stand and proceed in the name of Matthew Gottfried alone as complainant.

Third. That within ten days of notice to said attorneys for defendants of said amendment an answer shall be filed therein, and that thereupon said cause shall abide the result, cause No. 6454, wherein Matthew Gottfried is complainant and Samuel D. Langtree *et al.* are defendants, pending in said court, and shall remain *in statu quo* until the determination in the circuit court of said cause No. 6454, and a similar interlocutory decree shall be entered in each of said causes; but any appeal to be taken shall be taken in each separately, the evidence taken in either cause prior to the interlocutory decree to be treated for the purpose of appeal as in both the cases, and a copy thereof to be used for the record on appeal.

Fourth. That the bill of complaint may be amended as above provided by withdrawing the bill now on file and filing a new one as a substitute therefor.

Dated March 19, 1881.

BANNING & BANNING,
Solicitors for Complainants.
PARKINSON & PARKINSON,
Solicitors for Defendants.

48 5. That afterwards, to wit, on the 23rd day of March, A. D. 1881, an order setting aside said decree, etc., was entered in said cause in the words and figures following, to wit:

On motion of both parties and in pursuance of the stipulation herein filed, it is ordered by the court that the interlocutory decree and reference to the master heretofore entered in said cause be set aside and defendants allowed to answer and take proofs the same as if such decree and reference had not been made.

It is further ordered the bill of complaint in said cause be amended by dismissing as to the complainant, John F. T. Holbeck, so that the suit shall stand and proceed in the name of Matthew Gottfried as complainant, and that such amendment be made by withdrawing the bill now on file and filing a new one as a substitute therefor.

Inasmuch as these matters are omitted from the transcript of the record made up by the clerk, we hereby agree that this stipulation and everything herein contained shall be attached to said transcript and made a part thereof.

We also hereby stipulate and agree that all stipulations as to matters of fact appearing of record in this cause or in Gottfried *vs.* Crescent Brewing Company or Gottfried *vs.* Gaff and Langtree shall be considered and treated as applicable to any or all of said causes, and that the master's report, exception thereto, and all proceedings thereon as appearing in the transcript in said Crescent Brewing Company case, which were filed and had in all three of said causes in the court below, shall be treated upon appeal as if appearing in each of said transcripts.

It is further agreed that in case of a reversal of the decree by the Supreme Court in one or more of said three causes
49 above named and an affirmance thereof in the other one or two, all the taxable costs of all three of said appeals, costs of making up the transcript, printing the records, clerks' fees, &c., shall be apportioned equally—that is, one-third to each case, and paid or collected accordingly.

It is further stipulated that the appellee waives the issuance of any citation and will enter his appearance in the Supreme Court in each of said causes.

PARKINSON & PARKINSON,
Counsel for Appellants.
BANNING & BANNING,
Counsel for Appellee.

50 [Endorsed:] Sup. Court U. S. 1885. October term. No. 960. Eugene Hack *et al.*, app'ts, *vs.* Matthew Gottfried. Stipulation in regard to record.

[Stamped] Office Supreme Court U. S. Filed Sept. 19, 1885. James H. McKenney, clerk.

Endorsed on cover: Indiana C. C. U. S. No. 296. Eugene Hack & Anton Simon, appellants, *vs.* Matthew Gottfried. Filed September 19, 1885.

WITHDRAWN

Robert Clarke & Co., Printers, Cincinnati.] *[April, 1888.*

United States Supreme Court.

The Crescent Brewing Company,
Appellant,

No. 294.] *vs.*

Matthew Gottfried.

Gaff and Langtree

No. 295.] *vs.*

Same.

Hack & Simon

No. 296.] *vs.*

Same.

BRIEF FOR APPELLANTS.

ROBT. H. PARKINSON,
Of Counsel for Appellants.

Robert Clarke & Co., Printers, Cincinnati.] *[April, 1888.*

United States Supreme Court.

The Crescent Brewing Company,
Appellant,

No. 294.] *vs.*

Matthew Gottfried.

Gaff and Langtree

No. 295.] *vs.*

Same.

Hack & Simon

No. 296.] *vs.*

Same.

BRIEF FOR APPELLANTS.

STATEMENT.

These are appeals from the Circuit Court for the District of Indiana in suits for infringement of a patent granted Holbeck & Gottfried, May 3, 1864, for "Improved Mode of Pitching Barrels." The decrees below were in favor of complainant under the first and second claims of the patent, and the defendants have appealed. The claims in controversy are as follows:

"*First.* The application of heated air under blast to

the interior of casks by means substantially as described, and for the purposes set forth."

"*Second.* The use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described."

The common method of pitching casks, barrels, and kegs, for many years prior to this patent, had been by heating their interiors, and then applying pitch and rolling them. The patent purports to provide a new means of heating the casks, but not to otherwise alter the process of pitching, the successive steps remaining as before, viz.: first heating the interiors, then applying pitch, then rolling.

Before these suits were commenced, there had been several decisions in suits brought against other parties under the same patent, where the present defenses were not exhibited, each of these decisions sustaining the patent on the assumption that the patentees were the first to heat casks preparatory to pitching by means of a blast driven through the ignited fuel, and that this constituted the essence of their invention. (See *Gottfried* v. *Bartholimae*, 13 O. G. 1128; *Same* v. *The Philip Best Brewing Co.*, 17 O. G. 675.)

If these premises had been correct, it might be difficult to question the soundness of those decisions. The present defendants have no occasion to do so. They have proceeded to show that just what those decisions held to be the invention covered by the patent, and upon which alone they sustained it, was the common method of pitching casks in many breweries in this country long prior to the patent, and was also described in old German publications. Upon these new defenses, the court in the first instance held the patent invalid for want of novelty. (See *opinion, Gresham, J., stipulation at end of record.*) Subsequently, complainant filed a petition for a rehearing, with leave to take additional proofs. Defendants (following the practice sustained in *Page* v. *Holmes Burglar Alarm Tel. Co.*, 18 Blatch. 118) demurred to this petition. Some months afterward, the court, without passing upon the demurrer, reversed its former finding, still holding that,

"Complainant's patent can not be sustained on the theory that they were the first to use a hot blast, from which the oxygen had been removed, in heating the interior of the casks for the purpose of pitching them,"

and that Seibel had before

"heated the cask with his machine for the same purpose by the application of a hot blast, which he deprived of its combustible properties by forcing it through and in actual contact with the fire in the furnace,"

but finding that the patent could be sustained as for a new machine. A decree was entered accordingly, referring the causes to a master for an account.

The appellants insist that there was no invention in substituting the machine shown in the patent for the Seibel machine; that the court in its later opinion disregarded, and apparently overlooked, the fact that other machines, identical in character with that of the patent, were old as a means of applying hot blasts of the same quality to the interior of receptacles; and that, when the use of this blast for heating before pitching was shown to be old, the substitution of one for another known means for applying the blast to the interior of the cask was not invention, but merely the selection of a known instrument for doing its known work in a known process; that the moment the use of the blast driven through the ignited fuel into the interior of the cask, to heat it before pitching, was shown to be old, and the patent construed as for the mechanical means of applying this blast, it was anticipated by other machines than the Seibel, which correspond with the patent in every particular, including the use of the intermediate pipe to convey the deoxygenated blast from the furnace into the receptacle to be heated by it; that, if this had not been so, connecting pipes were so well known as a means of conveying heated air from the furnace into the receptacle where it was wanted (and, among other receptacles, into barrels and casks), that there was no invention in applying a connecting pipe to convey the hot blast from the Seibel furnace into a cask, or any other receptacle

where it was wanted, for the same purpose for which Seibel used it; that the court was in error in assuming that the Seibel machine was cruder or less efficient than that shown in the patent, as well as in assuming that there was any thing patentable in substituting for a crudely constructed old machine a better constructed old machine operating on the same principle, and applying the same character of blast; that, instead of this, the machine shown in the patent is so crude as to be practically inoperative, while the Seibel machine has been extensively used throughout the term of complainant's patent, and is preferred by many brewers to the best modern embodiments of what is now claimed to be covered by this patent; that if the court is to disregard an anticipation which exhibits the entire process of the patent, worked by the same mechanical agents operating in the same order, merely because the mechanical means are cruder than those of the patent (where they are conceded to have been practically operative, and to have been in extensive use for many years), it must make the comparison in respect to crudity between the old machine and that exhibited in the patent, rather than between the old machine and subsequent refinements upon what is exhibited in the patent; that the record shows that the patentees neither invented a new process of pitching, nor any new mechanical means for producing or applying the blast, nor discovered any new properties or effect in the agents used, but only exhibited a crude and imperfect illustration of an old process, and of known means for applying the deoxygenated blast to receptacles having small openings.

The court also overlooked the fact that defendants did not use the *detachable* pipe, E, which is made an element in the second claim of the patent, and that in other respects their machine, while unquestionably serving to perform the office of applying a hot deoxygenated blast, does not follow the Gottfried construction in any particular in which that is distinguished from the older machines used for the purpose of applying a similar blast, so that, if complainant's invention relates to any improvements in the construction of the heating apparatus distinguishing it from

what preceded, the defendants have not infringed upon that construction.

The first of these suits was brought just as the patent was about to expire. The defendants were not manufacturers of or dealers in the machines in controversy. They had simply purchased and put into use a furnace or heater known as the Vogt machine (shown opposite page 147), which had been extensively on sale and in use since about 1866, much, if not all, of that time with the full knowledge of complainant. Defendants had neither notice nor intimation that their right to use it was disputed until about the time suit was commenced. No suits were ever brought against manufacturers or dealers. Defendants had, in their answer, beside attacking the validity of the patent and denying infringement, pleaded an equitable estoppel.

Upon the reference to the master, after a portion of the evidence had been taken, the complainant entered upon the record a waiver of profits and confined his claim of recovery to damages. The only question before the master, therefore, was the actual damages suffered by complainant by reason of the infringement. The Crescent Brewing Company was a corporation, succeeding to the business of Gaff & Langtree. The Vogt furnace (that charged to infringe), which had been put into use by Gaff & Langtree, was continued in use by the Crescent Brewing Company, and was the only furnace or machine used by either of these parties; so that the infringement complained of in these two suits consisted in the use of but one machine in the brewery first under control of Gaff & Langtree, and then under control of the Crescent Brewing Company.

The only method of enjoying this franchise ever adopted or attempted to be adopted by the patentees, or by any one holding or claiming title under the patent, at any time during the term of the patent, was by selling the machines with the unqualified right of using them, or licensing others to so sell them. In 1870 Gottfried (the present complainant) granted to Holbeck and his associates or assigns the exclusive right under the patent at a royalty of ten dollars for each machine sold. This royalty was for Gott-

fried's half interest, and was the valuation fixed between the two men who, of all men, would be most disposed to overestimate the invention. If doubled to cover the other half interest, it would represent an exceptionally large royalty. After Gottfried had acquired Holbeck's title, the license fee for the entire interest in the patent was fixed at ten per cent of the selling price, which, according to complainant's testimony, made that license about thirteen dollars and fifty cents per machine on machines of the capacity of defendants.

According to complainant's evidence the gross profit per machine, at the rate fixed by the patentees long before the date of defendants' infringement, was not over fifty dollars per machine. And no larger profit has ever since been received or demanded except in settlement of litigation.

Since the adjudications sustaining the patent the price has not been increased, or the mode of business changed. There was no evidence showing or tending to show that complainant had been injured or damnified by defendants' infringement beyond the loss of the above named royalty on the single machine bought by defendants from another manufacturer. The defendants, therefore, insisted that the *damage* suffered by complainants could not exceed the royalty, or at most the gross profit, which would have accrued to the complainant if the machine had been bought of him or his licensees at the rate at which they were selling. The master, instead of taking either of these as the basis of recovery, resorted to an imaginary royalty from each keg heated, amounting to about five hundred times the largest royalty ever asked in actual business dealing. This so-called royalty was concocted as follows:

Pending this litigation, and just as the patent was about to expire, complainant, through his attorneys, undertook to manufacture a retroactive measure of damages by settling several suits against brewers who had only pitched a few kegs, for trivial amounts (always much smaller than the cost of a defense), and having them sign, as a part of this settlement, an instrument reciting that this payment

was made as a royalty at the rate of fifteen cents a keg, one dollar a small cask, and one dollar and a half a large cask, for each time a keg or cask was reported to have been heated for pitching by their furnace. While these instruments recited that the parties who thus settled were to continue to report and pay at that rate for the remaining months the patent had to run, none of them ever did so, except one, who reported no kegs pitched. The transaction was in each case simply a settlement of litigation in which the complainant, acting through his attorneys who are conducting the present suits, exacted as a condition of settlement the execution of an instrument to be used as a measure of recovery against these defendants and others, against whom the so-called royalty was to be multiplied indefinitely. There was no other object in executing these instruments. Between the parties to the transaction, it was wholly immaterial whether the one or two hundred dollars paid to settle the pending suit was recited as a royalty on a certain number of kegs or called by its real name—a tribute extorted as a condition of stopping an expensive and troublesome litigation. The number of kegs and casks to be reported and paid for was recited in the instrument, and did not necessarily include all or any large proportion of the kegs actually settled for, while the releases covered broadly all liability for past infringement. There were only six of these settlements made, all being for past infringement, and all but one in cases where suit for infringement had already been brought. No person ever paid, or agreed to pay, or was asked to pay this royalty, except in settlement for infringement, and none of the settlements for infringement purported to be made on this basis where it would have amounted to any sum approximating the cost of defense. In neither of these six cases did the so-called licensee make any payment for kegs pitched subsequent to the one payment which discharged the past infringement. Complainant's attorneys negotiated these settlements (*Dep. Gottfried, p.* 224, *ans.* 83–84).

Complainant testified that the first settlement made on this basis was with Jung & Borchert, who had, the year

before, purchased a brewery with an infringing machine in it (*Dep. Gottfried, p.* 225, *ans.* 99, 100). This settlement was consummated April 24, 1880 (about a year before the patent expired, and a year after the defendant, Gaff & Langtree, went out of existence). In this settlement only one hundred and sixty kegs were paid for, while a complete release for the past was given. No further report or payment was made under the so-called license. Having got the twenty-four dollars in settlement of this infringement, and thereby (according to the theory of the master's report) established a measure of damages against all past infringers, complainant proceeded to use this measure of recovery with such diligence that *in just one month thereafter* (May 26, 1880) he had on file, in the case of *Gottfried et al.* v. *Schaefer*, in the Circuit Court for the Southern District of New York, the master's report, finding that:

"The complainants depend upon their license fees for their compensation from the said patented machine, and have an established tariff or rate of license fees for the use thereof, to-wit, a royalty of fifteen cents on every keg or vessel of less capacity than a barrel, and one dollar for each cask of less capacity than thirty barrels for each time that such kegs or casks are pitched."

To a master's report obtained with such expedition there were, of course, no exceptions filed. It was promptly brought on for confirmation. It presented no error on its face, for, if its recital of facts were correct, the finding was legitimate, and the confirmation followed as of course. Care was taken to have the order of confirmation signed by a judge whose opinion on the merits of such a question would be most weighty, and it having been signed by the Hon. Samuel Blatchford, a certified copy of it and the master's report were at once put to service as a decision of controlling authority establishing the measure of recovery under this patent, and to those who did not understand that the question could not have been considered or passed upon by him under the circumstance of the record, it nat-

urally appeared decisive. Several other master's reports of the same character, apparently copied from the first, were obtained in rapid succession and confirmed in the same manner, always without exception or any *bona fide* defense.

Thus equipped, complainant effected many compromise settlements, varying in amount according to the disposition of the defendants or the influences that should be brought to bear upon them, but care was taken in all cases where the defendants had done any considerable business to make no mention of the rate per keg which would be represented by the sum paid. The six instances before mentioned were the only cases in which this so-called royalty was referred to as the basis of settlement, and they represent an inconsiderable percentage of the settlements made. Complainant admits, in cross-examination, that no machine was ever voluntarily put into use subject to any royalty for its use (*Dep. Gottfried, p.* 225, *ans.* 101–103).

The master reported that these six settlements, and the master's reports above referred to, established a royalty of fifteen cents a keg, to be multiplied by the amount of pitching done by these defendants, and assessed the damages by reason of the use of the one machine employed by the defendants in the first two cases as $9,676.40, dividing it between Gaff & Langtree and the Crescent Brewing ing Company, which had successively used that machine. Hack & Simon had pitched but a few kegs, and the amount assessed against them was $700.

The evidence had shown conclusively that the entire cost of pitching by hand (that is, in the manner practiced as far back as the art goes) would not exceed two cents a keg, if all the labor had to be paid for specially; that the cost of pitching by the best modern embodiments of the device in controversy was so nearly equal to that of pitching by hand that many brewers had continued to use it from preference, when the Gottfreid machine was at their disposal without royalty, and some of complainant's witnesses had returned to it after using the Gottfried machine, while many others heated their kegs by steam

driven through a close coil in the furnace, like the old Davison & Symington machine; and that when the pitching was done by hand it was a kind of knitting work to be done at otherwise idle moments by the hands about the brewery, and so did not involve any such expense as would have warranted the brewery in paying even a fraction of a cent a keg for the privilege of using the Gottfried machine. All the conditions were shown to be such as to negative the theory that the Gottfried machine could ever have been put into use on terms more onerous than the payment of the price of the machine.

Complainant had called a number of witnesses to testify that they regarded the Gottfried invention as worth fifteen cents a keg, but none of these witnesses furnished any data upon which to compute any appreciable value for it, while their cross-examination showed that many of them had, after using the machine, returned to pitching by hand, and others had resorted to other methods of heating the kegs and casks, older than the Gottfried patent, and continued to use them in preference to the Gottfried.

The value of the invention (if abstract or speculative value could ever be considered) had ceased to be a factor in the account by reason of the disclaimer of profits. The fallacy of these estimates is sufficiently shown by evidence taken in behalf of defendants, showing, upon definite *data*, the aggregate cost of pitching by hand to be not over one-tenth of this estimated royalty, and not appreciably more than when this machine is used.

The master disregarded the fact that there was no instance where such a royalty had ever been asked or paid in the ordinary course of business, and that it had only in exceptional instances been referred to in settlements; that there was no evidence tending to show that the complainant ever could have realized such a royalty off of any body; that it did appear affirmatively that complainant had voluntarily put the machine upon the market for unrestricted sale for the whole term of the patent, as his only method of realizing upon it; and that the disclaimer of profits excluded any consideration of the *value* of the

invention, as distinguished from *the actual loss inflicted upon defendants* under the circumstances that existed. He put his award upon the ground—

"First, that he has an established royalty or license fee at these rates, and that such royalty is fair and reasonable, and applicable to these cases; and second, that if he does not have such established royalty or license fee, the rate mentioned is reasonable and not above the fair actual value of the invention as appropriated by defendants."

Defendants excepted specially to the findings of fact and the findings of law in this report. Upon the hearing upon exceptions, the court conceded that the master erred in finding an established royalty or license fee, but said, as the master had reported that he regarded such a rate of royalty as "a fair and reasonable rate for estimating complainant's damages," he was not justified in disturbing his conclusion, "although the contrary evidence, standing by itself, is undeniably strong."

Neither the master nor the court mention any data upon which any such damages could be computed, or explain how it was inflicted.

Both the master and the court proceeded on the assumption that the only effect of the disclaimer of profits was to relieve complainant from the restriction which would confine him to actual profits computed upon definite data, and to substitute therefor a recovery upon the basis of a speculative valuation of the invention in the abstract never realized, or capable of realization, in actual business transactions. They wholly ignore the fact that, in order to make the *value of the invention* an element in measuring *damages*, it must be shown that the complainant was in the way of realizing that value, and prevented from realizing it by the trespass. They also overlook the fact that any *value*, to be an element of recovery, must be founded upon definite computations, and not purely speculative. They treat as of no consequence the fact that the entire cost of pitching of defendants' kegs by the oldest methods

would not have been more than one-tenth the award, if all the labor had to be paid for extra, while the cost of pitching where the furnace in controversy was used was so nearly the same as the cost of pitching by hand that no appreciable saving could be calculated. They refer to the fact that the only mode of enjoying the franchise ever adopted was by selling the machine outright, or licensing its sale on a royalty varying between thirteen and twenty dollars a machine, as if that could only be material *as an estoppel*, and assume that the complainant is entitled to whatever he asks for, without proof connecting it with actual damage suffered by him, unless the defendants established some *estoppel* by evidence as conclusive as would be required to convict of a capital crime.

The contention of defendants has never been that royalty or profits on sales of machines *estopped* the complainant from recovering his actual damages, but rather that they *measured* the entire actual damages inflicted by the trespass.

If, as the court says, these royalties or sales were not sufficiently uniform in amount to constitute an established royalty, this might afford a reason why defendants, who were not privy to them, should not be bound by them, but the result would be that complainant, having failed to establish any other measure of actual damage, could only recover nominal damages, not that the irregularity in his prices entitle him to recover, as damages from the use of one machine, a speculative amount bearing no relation to his actual injury and larger than the aggregate profit which he would have made by supplying every brewery in the country large enough to use such a furnace, on the best terms on which a sale was ever made.

If defendants had not committed the infringement complained of, they must either have abstained from the use of a device of this character or have procured a machine of complainant on the terms he was then asking. The assumption that they would have pursued the second of these two courses is the most favorable to complainant,

since it gives him the benefit of a sale which may have been due to the superiority of the infringing machine, or its cheapness, or the greater enterprise of the manufacturer, while if it be assumed that the defendants would have pursued the first alternative his damages are only nominal.

Not only is there no circumstance to support the assumption that complainant has suffered other damage than the loss of the sale of the machine, the evidence, as well complainant's as defendants', absolutely excludes any such hypothesis. It is difficult to see where even a visionary imagination could find a starting point from which to develop the conjecture that the actual damages inflicted on complainant by reason of the unlawful use of one machine, on which his license fee was never more than twenty dollars, had been approximately ten thousand dollars, or a hundredth part thereof.

The court, with some reason, criticizes the exceptions to the master's report as necessarily prolix, but this report contained in almost every sentence some misstatement that might be construed into a finding of fact or law, by a judge who had just come to the Federal bench, and who was unaccustomed to this class of cases, and therefore liable to be more than ordinarily influenced by the master. The master had (as more particularly indicated hereafter) stated as proved so many things of which there was no evidence, and so many others which were diametrically contradicted by all the evidence touching them, his errors had been so invariably in one direction, and his finding had been so enormously out of proportion to any possible damage suffered by complainant, that defendants were impelled to take superlative precautions against any thing that could be construed into acquiescence in any of the errors of the report. The extent to which an exception to the finding of the master would be treated as striking at his premises was not better settled by practice than the rule of law which limits the recovery of damages to those actually inflicted by the trespass, and the tide which had burst through the latter might sweep away the former.

ASSIGNMENT OF ERROR.

Appellants submit that the court erred—

First. In finding complainant's patent valid, whereas it should have found it invalid for want of novelty, and for want of patentable invention, and that it was anticipated, among others, by the Seibel machine, Cochrane & Slate patent, Pewterer's blast, Devaux patent, Davison & Symington patent, Hanbuch Fur Bierbrauer of 1854, Der Bierbrauer of 1861.

Second. In failing to find that complainant was estopped from relief in equity by reason of laches, and by long acquiescence in the sale and use of defendants' and similar machines.

Third. In failing to find that the alleged invention in controversy was not the joint invention of the patentees.

Fourth. In finding that the first and second claims of complainant's patent, or either of them, were infringed by defendants.

Fifth. In awarding damages on the basis of fifteen cents a keg for each keg pitched, whereas it should have found that complainant had shown no damages beyond the loss of the royalty, or at most, the profit which he was at the time receiving on the sale of machines.

Sixth. In failing to find that complainant was not entitled to more than nominal damages.

Seventh. In overruling defendants' exceptions to the master's report, and each of them.

ANTICIPATION.

The patent relates to the means of heating the inside of casks, preparatory to coating them with pitch or other substances. It is not now claimed that there is any novelty in the heating of casks before pitching them. This was, long prior to the date of the patent, as much a matter of course as heating iron before welding it.

The means consist of a small fire box, with a blower driving a blast of air through it, and thence into the cask.

Judge Blodgett, in the Chicago cases, seems to have supposed that the patentees were the first to heat the inside of casks for the purpose of coating them with pitch, and speaks of having "conceived the idea of coating the inside of a barrel with any substance that could be melted," as if this was original with the patentees. He also speaks of the passage of the blast through the fuel, so as at once to supply the draft for combustion and deoxygenate the blast, as the distinguishing feature of the invention. Judge Dyer, in the Milwaukee cases, adopting both the theory and the language of the complainant's expert, pronounces this deoxygenation of the blast "the essence of the patentee's invention."

Passing, for the present, the fact that neither the deoxygenation nor passing the blast through the fuel is mentioned in the patent, that, on the contrary, the construction shown in the drawing is such as to accomplish neither of these purposes, accepting, as their honors have done, the construction given the patent by complainant's expert, and assuming the essence of the invention to be the forcing of a blast through the fuel, and applying the decomposed blast to the inner walls of the cask for the purpose of heating it preparatory to pitching, it is now shown by evidence of a conclusive character (and which complainant has not undertaken to rebut) that this very means had been commonly and extensively used for heating casks preparatory to pitching, in Cincinnati, St. Louis, and elsewhere, for many years prior to complainant's patent; that it had been described in printed publications as early as 1854; that it was effected by the same combination of mechanical elements as in complainant's patent, no more and no less; that the heating apparatus used by the patentees was in its entire organization old, and a common expedient for heating the interior of receptacles with small apertures, to which it was applied and upon which it operated precisely as in complainant's patent; that the non-combustible properties of the blast applied by it were fully known and described in patents and other publications; and that the utility of a blast deoxygenated by being passed through

the fuel, for the purpose of heating the inside of casks preparatory to pitching, as well as the use of a blower to drive the blast through the fuel and thence into the cask, had been specifically set forth in connection with the description of this mode of heating casks.

The more pertinent of these prior processes and machines are as follows:

Seibel Process and Machine.

This machine was not before the court as antecedent to complainant's invention in either Chicago or Milwaukee, and the language of the court in both those cases implies that they regarded it merely as one form of the invention covered by the patent. One of these machines used thirty years ago is in evidence as "Complainant's Exhibit Seibel Machine." It is fully described as used in St. Louis and Cincinnati from the first of 1857 to the present date. (See *depositions on pp.* 133–143; *also pp.* 179, 182, 203.)

It is a small furnace having a perforated pipe extending the entire length along the bottom, which pipe was entered by a hose connecting with a blower by which the blast was driven through it, passing through the fuel and thence through the cask. The blower used originally, when there was no mechanical power convenient, was a blacksmith's bellows. As the breweries have increased in size and introduced mechanical power, the ordinary rotary blower, the long familiar equivalent of the bellows, has been substituted, making however no difference in kind in the operation, and no difference in the mechanical combination.

The entire process of pitching when this machine was used as the heating apparatus was the same as that now in controversy, being first the heating of the cask by the application of a blast of heated and deoxygenized air, and second, the application of a coating of melted pitch. The pitch was sometimes applied after heating as described in complainant's patent, and sometimes introduced before the heating.

The combination of mechanical elements by which it

is accomplished corresponds both substantially and literally to the description and claim of complainant's patent, and to the definition of the invention given by complainant's expert in the Milwaukee and Chicago cases, and by both Judge Blodgett and Judge Dyer. What they pronounced to be "the essence of the invention" is more perfectly shown here than in the patent. Here is "the application of heated air under blast to the interior of casks" by means of a blower forcing the free air through the furnace, where it at once stimulates combustion, and undergoes deoxygenation, and thence passing it through an opening in the top of the furnace into contact with the walls of the cask, and thence out through a small opening left at the man-hole for the purpose as in the patent.

The purpose was exactly the same as in the complainant's patent, viz.: the heating of the cask. The purpose of heating was also the same, viz.: to prepare it for pitching. The current of heated and deoxygenated gases passing through the cask and out through the opening left for the purpose, expelled and excluded the atmospheric air just as in the modern Gottfried machine. It was all done without destroying the integrity of the cask, in other words, without removing the head. It was practiced with just such casks as are shown in the patent, and to which the patented machine is described and claimed as applied, and to which alone it was adapted. The process was much more perfect than it could be with a machine like that shown in the patent, where the air could not be more than barely warmed in passing through the furnace, and while taking the deleterious products of combustion with it, would not undergo any material deoxygenation. (See Dep. *Prof. Judge, p.* 205, *ans.* 3–4.) It can not be pushed aside as a mere crude experiment, for the evidence shows that it has been constantly used in most of the larger breweries to this day, and is now used by preference in pitching large casks by those who own a modern Gottfried machine, while it is admitted that not a single machine like that shown in complainant's patent has been put into use. (See Deps. *Lackmann, p.* 203; *Moerlein, p.* 179, *ans.* 1–15; *Klotter, p.* 178;

Stifel, pp. 139–40; *Seibel, pp.* 133–4; *Gottfried, p.* 74, *ans.* 51.)

This machine is adapted to apply a much more powerful blast than the machine shown in the patent, where any rapid blast would not only throw off the loose "lid" that covers the furnace, but would, if this difficulty was remedied, quench the fire and introduce only cold air.

The patentees state in the specification that they describe only "one mode of carrying our invention into effect," thus expressly disclaiming any limitation to the particular kind of mechanism. They have not limited themselves to any degree of heat or power of blast, or even indicated what degree of heat or power of blast they use. They have framed their patent to cover just such modes of heating casks as that practiced with the Seibel machine. Their expert has hitherto carefully framed his construction of the patent to cover this method, and the courts have, at the instance of complainant, adopted that construction. This would undoubtedly be held an infringement if the patent were valid. The complainant has since the Milwaukee suit brought suit for infringement where the defendant was and had been using no machine except the Seibel, and only dismissed that suit after the priority of this machine was proved. (See Dep. *Lackmann, pp.* 203–4.) He has also, since the Milwaukee decision, contended for a construction of the first claim covering a blast driven by the pressure of steam from a boiler through closed pipes into the cask. (See Dep. *Complainant's expert, p.* 128, *ans.* 200–205.)

In any construction of the patent every stage of the process is found here—the artificial blast, the passage through the burning fuel of the furnace, serving at once the purpose of supporting combustion and deoxygenation, the passage thence into the cask in which the pitch is placed, the contact with the walls of the cask serving to heat them preparatory to applying the pitch, the passage of the blast thence out through the man-hole of the cask and the subsequent application of pitch. Not one step and not one resultant is either omitted, added, or varied in its order. The change of location of the furnace from the

interior to the exterior of the inclosure to which its heat is to be applied does not make a different process. A process must consist of a series of effects or of operations, each producing its distinct effect with reference to some ultimate result. The succession of effects or operations is the same whether the conduct of the heated gases from the fire to the pitch to be melted is measured by the extent of the walls of the Seibel machine above the fuel or by the length of a forty foot conduit pipe. The pipe is simply an idler so far as the process is concerned. It introduces no new effect other than a certain waste of efficiency by radiation. The Seibel machine is the more economical of the two because all the heated gases are utilized without loss by radiation in their passage to the place where their heat is applied. It would give a larger result for the same amount of fuel.

The use of a connecting pipe where the blast of a pipe was to be applied at a distance from the furnace, or to an interior of small aperture was as familiar an expedient before the date of this patent as the use of a spout to convey water, or of a belt to transmit power.

But if it had been an entire novelty, if the patentees had been the first to discover that the heated gases could be conveyed to a distance from the furnace by means of a pipe, the introduction of such a pipe would not have constituted a new process of pitching, for no change would have been produced in the nature of the blast in its passage through the pipe, and no change in the character of the resultant. The transposition of the furnace to a position external to the cask and use of a connecting pipe to convey the heat into the cask no more made it a new machine or new process than would the use of a connecting pipe to carry water from the mouth of a pump into a distant receptacle. It was one of those expedients as common in mechanics as the substitution of a rivet for a screw. The use of this connecting pipe to convey the blast into casks, instead of other small receptacle, would no more entitle a person to a patent than the use of a connecting belt to convey the power of an engine to run a lathe for working

wood in a shop too small to admit the engine itself when the same connecting belt had been commonly used to run a lathe for working iron under the same circumstances.

The subsequent exhibits show similar machines with the connecting pipe to convey the same blast into various receptacles for the purpose of heating them.

There is not a mechanic of any intelligence that would not, the moment he had occasion to apply the blast of the Seibel machine to receptacles at a distance from it or of smaller aperture, resort to the ordinary connecting pipe as readily as he would provide a pipe to convey water to a distance from the pump, or a nail to secure two boards together. This involves simply ordinary intelligence in adopting familiar mechanical expedients—not invention. The change was resorted to, as a matter of course, the moment there was occasion to apply the blast to kegs. It was not necessary even to provide a pipe, for there were already in existence machines operating on the same principle as the Seibel, provided with the connecting pipe, used for heating receptacles of small aperture and capable of being applied without change to casks or kegs, such, for instance, as the Cochrane & Slate and the Pewterer's blast.

It should be noted that complainant has no claim for the application of this mode of heating to kegs. His claim is specifically for heating casks—the same to which the Seibel was applied. While if the application of this blast was novel, the claim might be construed as *including kegs*, it can not be construed as *limited to kegs* for the purpose of avoiding anticipations. Kegs are not mentioned in the patent, and probably for the same reason that the Seibel machine was not earlier applied to them, viz., that there was not at the time enough pitching of kegs to make it worth while to warrant the expense of keeping a machine for them. The little pitching of kegs that was done then could be done without any outlay in the otherwise idle time of the workmen. (See Deps. *Moerlein*, *pp.* 179, 180; *Lackman*, *pp.* 203, 204.) The use of kegs for shipping beer on such a scale as to warrant the expense of a blast furnace

for the purpose of heating them is of recent date, and the moment there was occasion for such a furnace any foundry man of ordinary intelligence could supply it from his knowledge of the prior art.

Complainant's expert, Prof. Haines, who had stated the essence of the invention to consist in "the use of heated gases in pitching the interior of barrels," was examined in rebuttal after the evidence as to the Seibel machine was taken, but neither this nor the Pewterer's blast, nor the Cochrane & Slate, nor the extract from Der Bierbrauer, were submitted to him.

Cochrane & Slate Patent of 1850.

This exhibit was not before either Judge Blodgett or Judge Dyer, and their opinions imply that if it had been, it would have effectually disposed of complainant's patent. The drawing is opposite page 160, and the specification on page 157. It corresponds more closely to complainant's machine as it is used, and to defendant's machine, than does that shown in complainant's patent. It shows a machine mechanically identical in construction and mode of operation with the Gottfried as always used, that is, with the blast passing through the fuel and a pipe extending from the furnace into the interior of the flask, to be heated through which the blast of hot air is conveyed into that interior. It is shown as used to apply the hot deoxygenized blast to the purpose of heating the interior of pipe molds or flasks instead of casks, but the operation is exactly the same in either case, and the purpose the same, viz., the heating of the inner wall of the receptacle to which the blast is applied. The necessity for avoiding combustion is much greater in case of the mold than of the cask, for the black-wash with which it is coated is much more liable to burn than the wall of the cask, and any ignition of it is ruinous.

Here is the Gottfried machine, simple and bare, more perfect in its mechanical structure, but unincumbered by any additional feature, doing the same work in the same way, and requiring no change in size, form, or arrange-

ment when applied to casks instead of flasks. The purpose of the machine is identical in both cases, that of heating the interior of small receptacles to which it is applied. The process of heating is the same. What the ultimate purpose of heating is makes no difference either in the mechanism or the process of heating. The subsequent application of pitch is not any part of the complainant's invention. It is precisely the same as it was when other methods of heating were used. It is not even described in his patent. If a heating apparatus is old, but has only been used for melting iron, a patent can not be sustained for using it to melt copper, which has been before melted by other apparatus applying the same quality of heat, and it makes no difference that the object of melting the iron is to make it into nails, and the object of melting the copper to make it into coin. A patent can not be sustained for applying such apparatus to heating any substance to which it can be applied without substantial change of structure. If it is used in some operation in which heat has never been used before, and accomplishes a result that is in itself new—not merely new as obtained by the use of that particular heating apparatus—there may be a patent for the new resultant, or for the use of heat in effecting the resultant, but that patent must stand or fall upon the novelty of the resultant, or of the use of heat in the process, entirely apart from the particular heating apparatus from which the heat is obtained. A patent can not be supported for applying an old heating apparatus, that has hitherto been used to apply heat to the interior of bodies remote from itself, to heating the interior of other bodies remote from itself, to which it is applied in the same way as heretofore, by calling that use of the old machine a new process, any more than a patent can be sustained for applying a particular shovel, that has hitherto been used only for shoveling sand to shoveling wheat, by calling it the process of moving wheat by the particular shovel.

Judge Gresham held that this machine would require "material changes in its construction or arrangement" to

enable it to perform the office of complainant's furnace; but the only change required is to make the mouth of the exit pipe of proper size to fit a cask instead of adapting it to enter a flask. A greater change in the pipe shown in the Gottfried machine was required to the pipe of defendant's machine, which was adapted to the bung-hole of the kegs instead of the man-hole of casks.

The Cochrane & Slate patent anticipates and invalidates complainant's patent, however construed, unless the court adopts the proposition that substituting for one machine in common use for applying a heated blast to the interior wall of one kind of a containing vessel another machine in common use for applying a blast of the same properties to the interior wall of another containing vessel is a patentable invention.

This is asking the court to go not merely further than any decision as to patentability has ever gone, but further than any speculation as to patentability has ever gone. Judge Lowell, in *Moffitt* v. *Rogers*, 8 Fed. Rep. 147, admitting that some of the authorities have speculated about the patentability of the application of an old machine to a new use, says he can find no case where such application has been held patentable. The speculations have been confined to the possibility of some application of an old machine to a use so utterly unanalogous to that to which it has been put, or analogous machines have been put, that the new application would in effect give to the machine a new mode of operation so different in kind as to make it practically a new machine, and, as Judge Lowell says, no instance has been found by any court sufficiently remote to answer the test.

It is noticeable in this connection that while the complainant examined both his experts in rebuttal after defendant's expert had testified that the Gottfried machine, as recited in the first and second claims, was fully anticipated by the Cochrane & Slate patent, and while in this examination they submitted to his experts all the other patents and exhibits referred to by defendant's expert, they avoided interrogating either of their experts about this

Cochrane & Slate patent. Defendant's evidence on this point therefore stands entirely unrebutted, and in effect acquiesced in. It would seem that after the positions they had taken to avoid the Seibel machine, in its effects upon the process, complainant's experts felt they could not consistently deny that this Cochrane & Slate patent fully met the case.

The discussion of the proportion of pipes shown in "Cochrane & Slate," or the degree of pressure given the blast in either this or the Seibel machine, hardly requires notice.

Enlargement or diminution of parts of a machine to give a relative increase or decrease of strength or efficiency is not invention, but the exercise of ordinary judgment or mathematical computation. Patentees seldom show in their drawing the exact scale on which they construct their machines. It is sufficient if they show generally the plan and mode of operation.

Every mechanic looking at the Cochrane & Slate drawing would understand that the entrance pipe was to be of any size that was most convenient, and would understand that the blast could be increased to any desirable degree by a corresponding increase of pipe and power, just as readily as if it were stated on the face of the patent.

Such increase makes no change in the character of the organization, the character of the blast. A single black line, showing the position of the blast pipe, would have answered the purpose of the patent as well as a pipe on the exact scale intended to be used. The drying of molds, for which this machine was used, requires more heat than is needed for pitching.

Unless the mode of operation is dependent on the size of a particular element, the size shown is immaterial.

The intensity of the heat is not lessened by diminishing the size of the exit pipe; rather the contrary. All the air pumped into the furnace, and no more, will pass into the cask or flask, whatever the size of the exit pipe. If the exit pipe in "Cochrane & Slate" were made one-tenth of the size shown, not one particle more heat, or "heated

gases," would pass into the cask or flask than with the pipe its present size, and they would not be a particle more effective for heating the cask. It is the proportion between the ignited fuel through which the heat passes and the size of the flask or cask into which it is discharged which (together with the rapidity with which the blower is worked) determines the amount of heat applied, not the size of pipes through which the heating agent travels; and whether we take all the conditions as shown in complainants' patent, or take defendants' machine as applied to a cask of the size upon which complainant claims to have experimented with "Der Bierbrauer," the proportion is largely in favor of the Cochrane & Slate patent as applied to the flask shown.

Complainant has not a patent for any particular degree or energy of blast; the patentees have not even specified what degree they use. This is left entirely to the judgment of the mechanic, based upon his previous knowledge. If the patent were capable of being construed and sustained as for the particular proportions of parts, or the energy of the blast applied, no defendant uses those proportions. The efficiency of defendants' machine is due to featuras which it does not possess in common with complainant's. It has copied no change from prior machines which originated with the patentees.

The only implication which complainant's patent contains as to the force of blast applied is in the fact that it shows a loose cover on top of the furnace which any thing beyond a very gentle propulsion of the air would throw off; that the brick furnace has no suitable lining or casing to resist high pressure; and that the fire is in a position where any considerable pressure would drive the air through without heating it.

Either "Cochrane & Slate," "Seibel Machine," or "Der Bierbrauer,' would apply without change, a blast more powerful than would be necessary to throw off the top to this furnace, and evidently more powerful than was contemplated by the patentees.

The adoption, long after the date of the patent, of the improved blower since invented by Roots (*See dep. Gottfried*,

ans. 52-54, *p.* 74), the reconstruction of their furnace, with a shape and arrangement of pipes which give it a much greater efficiency, and adapted by its material and otherwise to stand great pressure, does not entitle the patentees to invite a comparison in degree of mechanical efficiency between their present machine (all of it borrowed or stolen from others) and older machines operating on the same principle, and then claim a patent for a particular degree of efficiency thus obtained.

If size, proportion, or arrangement of parts is the test, or if any thing relating to the mechanical construction or even the essential properties of the machine is to be the test, defendants have copied the "Pewterer's blast," not the Gottfried & Holbeck machine.

Pewterer's Blast.

This exhibit is an extract from Tomlinson's Cyclopedia of 1854. (*See p.* 169 *and drawing opposite p.* 170.) It, like all thus far referred to, appears for the first time in this record. One witness was called in the Milwaukee case to prove the use of such a machine, but the court rejected it solely on the ground that the testimony of one man about a use placed in his early childhood was not sufficient to prove it, leaving the implication that if proved it would have constituted an anticipation. It is now proved beyond controversy. The Cyclopedia contains a small engraving as well as a description of the machine. It is so exactly like defendant's machine that it would seem to have served as a model from which it was built. Its mode of operation as well as its structure is the same. It is described as made of cast iron and as used for the application of the same blast of hot air through the fuel to the melting of the mixture of rosin and oil used for soldering. For this purpose the nozzle would be inserted into any small aperture where the blast was wanted. The mixture of rosin and oil to which it was applied was an inflammable substance and required to be melted by a high degree of heat. Mr. Knight, who was familiar with its use, states that it could be used for pitching kegs without any change whatever. (See *p.* 199 *and p.* 204, *ans.* 3.)

It is much nearer the size of defendant's machine than is the Gottfried. In practice the defendants use a more powerful blast to correspond to the greater amount of work to be done. They have enlarged the machine and propel their blast by a blower adapted to a larger machine, as Gottfried has himself, according to his testimony, adopted for the last twelve years a modern blower that does much better work than that shown in his patent. But this enlargement and increase of efficiency is not by the adoption of any thing invented by Gottfried & Holbeck. It is a mere increase of scale or degree without change of method. (See *Phillips* v. *Page*, 24 How, 164, and *Smith* v. *Nichols*, 21 Wal. 112.)

Handbuch fur Bierbrauer, 1854.

This exhibit is found on page 170, and translated on page 183, and illustrated opposite page 187. (*See also page* 182.)

It is a publication in 1854, describing the use of a machine for heating casks prepatory to pitching, similar to the Seibel, with the addition of an Ohm cask, to give uniformity to the blast. It points out specifically the fact that by this method all danger of fire in the cask, and all inconvenience in removing the head of the cask, is avoided, and is a more perfect approach to the process than that illustrated in the Gottfried patent. This exhibit was not before either Judge Blodgett or Judge Dyer.

Davison & Symington Patent, 1843.

This patent shows literally the application of heated air under blast to the interior of barrels for heating them, the furnace being located exterior to the barrel, and the blast entering the bung-hole through a removable pipe. The blast is driven by a rotary fan. (*See drawing opposite page* 162, *and specification, page* 159.)

While this machine has every feature specified as essential in the complainant's patent, and it seems impossible to give any reasonable construction to the statement in the specification that the machine described is only one mode of carrying out the invention that does not include this

machine, it is not claimed that this deoxygenizes the blast. It is the first one of the exhibits referred to which does not; and it is the only one of them which was before Judge Blodgett. It was this, and the ingenious theory of complainant about deoxygenation, that led him to look to the process of decomposing the blast by passing the free air through the fuel as the invention covered by the patent, in spite of the fact that the patentees did not distinguish this feature, and did not introduce into their patent any thing that would suggest to others that it made any difference whether the blast passed through the fuel so as to be discomposed. That the complainant and his expert have treated the machine using closed pipes with no access to the fuel as within their patent, is shown by some extracts from the record of a recent suit by them on this patent, where the alleged infringement consisted in the use of such pipes. (*See pp.* 128–9.)

The quality of the blast applied by the Davison & Symington machine, when simple air was used, would correspond more nearly to that applied as shown in the drawing of complainant's patent, where it is not deoxygenated, and also to the language of complainant's claim, than the blast now used by either complainant or defendants.

The Davison & Symington patent states that:

"When a very high temperature is found necessary to purify the casks from every perceptible taint or must, or charr, or other bad odor, it may be found useful to introduce along with, or in addition to the hot air, a small quantity of steam."

Complainant's expert seems to have misled the court in Milwaukee, in supposing that this implied that the heat was never to be used above a temperature of 212 F.

The implication is exactly the other way. Steam while never at a temperature at less than 212 may be carried to a much higher temperature, and is a common means of preventing combustion where an intensely hot

blast is applied. If it were not desired to carry the blast above the temperature of steam, there would be no occasion for the coil passing through the furnace.

The apparatus commonly used in the large breweries of St. Louis for heating casks preparatory to pitching, also used in large breweries of Chicago, consist of a coil of closed pipe passing through a furnace, through which steam is driven into the kegs. (*Dep. Schlossten*, *p.* 135, *x-q.* 1, *r. d.* 1, 2; *Lemp*, *p.* 136, *x-q.* 1–4; *Stifel*, *p.* 140, *x-q.* 1–3; *Anthony*, *p.* 142, *a.* 2, *x-q.* 1–2; *Gottfried*, *p.* 234, *a.* 176–7.)

Seib was called as a witness for complainant to prove the utility of the Gottfried machine. He testified to having made a test, and pitched eight hundred kegs, with six men, in one day, leaving it to be inferred that he used the Gottfried machine for this test. On cross-examination, he was asked what kind of a machine he used in making this test, and had to admit that it was not a Gottfried machine, but the machine using the superheated steam; that, in the Seib brewery (the largest in Chicago), where they had formerly used the Gottfried machine, they had thrown it out and taken instead this superheated steam machine, and were now doing all their pitching on the latter machine. (*p.* 260, *x-q.* 35–39.) This was after Gottfried's patent expired, and was the strongest expression of preference for the coil machine, which had long been in general use in St. Louis.

There can be no doubt but that the Davison & Symington machine would apply a hotter blast than the Gottfried, if the latter were constructed as shown in the Gottfried patent.

The Davison & Symington patent also says:

"Though we have spoken of atmospheric air as that which is heated and driven in rapid currents into contact with the casks, vats, and other vessels to be cleansed, purified, and sweetened, we do not limit ourselves to the use of such air alone, but claim a right to the use of any other sort of air which, being heated and driven in rapid currents as aforesaid, will produce the like effects."

But whatever construction is put on complainant's patent, this Davison & Symington patent is very significant in this—the application of a heated blast driven through the fuel to the interior of casks for the purpose of pitching them is now shown by the Seibel machine to be very old. The only novelty the complainant now claims is in the location of the furnace exterior to cask and the connection of it therewith by means of a pipe adapted to enter it. This relative location of the furnace and cask, and use of a removable pipe to conduct the blast into the cask being old where one kind of blast was used, it can not be claimed that the use of the relative location and mode of connection with the other blast is any more patentable invention than would be the application of a spout to convey water from a suction pump to a receiving cask, which had before been used to convey water from a chain-pump to the same cask.

The purpose and advantage or disadvantage of this external location and mode of connection is precisely the same when one kind of blast is used as when the other is used.

The Davison & Symington machine is adapted to apply the blast to the interior of barrels and kegs which have no man-hole. In this respect it is like defendants' machine and unlike complainant's, which is only adapted to the man-hole of large casks.

Devaux Patent of 1835.

There are a multitude of exhibits showing that the application of a rotary blower to drive a blast of free air through a furnace and thence through a conducting pipe into the inclosure in which the heated blast was to be applied was one of the common expedients for applying intense heat, used for a great variety of purposes, all capable of application to the purpose of heating the interior of casks.

The Devaux patent (see *drawing opposite p.* 168, *and specification, p.* 164) shows a free blast driven through the furnace and thence through a movable conduit pipe for heating purposes. The construction and operation of this

machine is identical with the complainant's (assuming that the complainant's passes the blast through the fuel), having only an additional and entirely independent provision to admit of feeding the furnace without stopping the blast.

The patent specifically points out, as the complainant's does not even suggest, the advantages of this method of applying the hot blast, as first, that the blast itself supports the combustion in its passage through the fuel; second, that it is itself decomposed in its passage through the fuel; and, third, that the pressure of the blast forces the resulting heated gases or products of combustion onward through the exit-pipe to where it does its work. The furnace, the process and the resultant are the same Judge Blodgett assumes to have been original with Gottfried & Holbeck. This patent was not before Judge Blodgett.

Complainant seeks to explain it away by the fact that it contained a supplemental provision for feeding the furnace without arresting the blast. This supplemental arrangement does not in the least alter the operation of the machine. Except while the furnace is being fed with fuel it possesses no function whatever, and then an independent one, namely, that of enabling it to be fed without interrupting the blast.

If a mill is shown in a prior patent as having an automatic feed no patent can afterward be sustained for the same mill minus this automatic feed, the operation of the remaining parts being the same as before.

Prof. Haines, complainant's expert, thinks this machine would not answer the purpose of Gottfried & Holbeck, because the air is compressed, and therefore would not be thoroughly deoxygenated. It is not compressed in any other sense than any air driven by artificial means is compressed. The air is nowhere confined, its course is free and continuous, the chamber through which it passes is only a part of its conducting pipe. There can be no material compression. Aside from the fact that the air has uninterrupted passage this is further shown by the fact that it is intended that a man shall enter the chamber A for the purpose of feeding the furnace while the blast is on, which

would be impossible if there were any considerable compression. There would be quite as much compression of air with defendants' machine where the blast is forced through the conveying pipe.

It is a curious commentary on the value of experts' opinions on such points that Prof. Haines, one of complainant's experts, is positive that the slight retardation of the air in the Devaux machine would prevent its being deoxygenated for the sufficient purposes of pitching, while Mr. Graham, his other expert, is equally positive that the absence of any retardation of the air in the Seibel furnace would prevent its being deoxygenated sufficiently for the purpose, and ignores the fact that in the construction shown in complainant's patent the air is not forced through the fuel at all. In either case the effect of the retardation would be compression.

It is especially far fetched for the complainant to lay such great stress upon the imperceptible effect upon the deoxygenation produced by the irregular channel of the Devaux blast, when deoxygenation is never suggested in his own patent, and the only arrangement of his machine shown, that by which he must stand or fall, is such as to almost, or quite, completely avoid deoxygenation.

There is no patentable invention in taking the Devaux machine, organized exactly as shown in his patent, and simply dropping off his provision for feeding the furnace. This subtraction making no difference in the relation or operation of the machine that remains. But if the preposterous theory of the expert were to be adopted upon this point, the Cochrane & Slate patent, as well as the Pewterer's blast and the Seibel machine, applied the blast through a pipe of even diameter with no bulge or chamber in its course, and no provision for feeding during the operation.

The Devaux patent is referred to partly as showing how common machines of this character were, and partly as showing that they were recognized and described in published patents as possessing the several advantages upon which Judge Blodgett lays stress as the distinguish-

ing novelty and merit of complainant's patent, the utilization of the same blast for supporting combustion and applying a continuous current of heated gases, the decomposition of these gases in their passage, and the conveyance of their resulting gases by the pressure of the blast into the receptacle where they were to act as heating agencies. Whether this was, or was not, the best kind of a blast to apply to blast furnaces is immaterial, as it is beyond dispute that it was a perfectly operative and successful machine for applying such a blast. It also illustrates the fact that connecting pipes were known means of conveying such a blast into the place where it was desired to apply it, and shows an adjustable pipe used for this purpose.

Der Bierbrauer, 1861.

This is a publication not before the court in either Chicago or Milwaukee. It is found on page 225 of the record.

All the defendants' exhibits hitherto referred to, long antedate this publication, and it is therefore to be read in the light of the art as shown by them, though its language is so unmistakable that it could not, in the absence of all these exhibits, fail to convey to any mechanic of average intelligence the description of complainant's machine in what is now claimed as its most approved form.

This extract describes five different methods of heating barrels, beginning with methods for applying a low degree of heat, and passing to cases where the "burning air" is to be drawn from a pit furnace, and driven through the barrel by means of a fan blower, driven by convenient power. The fifth, on page 229, is the section especially referred to. This machine, as it is understood by Mr. Knight, is shown on page 201 of the record. It completely meets complainant's patent.

There can be no dispute as to what a pit or shaft furnace is, or as to what a rotary fan is, or as to how it would be arranged to "blow through the vessel."

Complainant's expert endeavors to import into this fifth section the description of the close hot room, in which

the barrels are described as dried in one of the other sections. This is not only entirely gratuitous, but is expressly excluded by the mention of the door at the side of the furnace to admit "cold air." This would be absurd if the furnace was used in a hot room into which it was discharging its heat, as the air admitted would be the same as that it was discharging.

Complainant's expert thinks this machine would not work, because with this arrangement of the fan you would only get a blast equivalent to atmospheric pressure.

Atmospheric pressure would be sufficient to burst a machine like that in complainant's patent all to pieces.

The arrangement shown in the patent could never give a pressure quite equal to atmospheric, even if it were strong enough to stand that pressure.

Whichever side of the furnace the blower is placed, it is only fed by atmospheric pressure.

The arrangement described in the extract is slightly the more efficient of the two, and the two arrangements are as familiarly interchangeable as running a locomotive backward instead of forward.

It takes not a particle more pressure to drive the blast down through the pit furnace than up through the defendant's, or through the Gottfried, if it is used, as they claim it always is, with the coke piled to the top.

Indeed, the direct course of the blast through the pit furnace makes the same blast more effective.

The expert who relies so confidently upon the assumption that a blower which is only fed by the atmospheric pressure would not be equal to the occasion, admits on cross-examination that he don't know but it would be more effective arranged as in Der Bierbrauer than as arranged in complainant's patent.

Prof. Judge's testimony on this point fully covers the ground. (See *p.* 206, *ans.* 5.)

Complainant's expert also thinks that the fact that the description states that in certain contingencies the door to the ash-pit may be open, and that this would allow a portion of undecomposed air to enter, is fatal to this exhibit.

The description shows that the door is intended to be kept closed except when it is desired to introduce cool air.

This of itself shows plainly, both that the apparatus is understood to be capable of applying a very high degree of heat, and that the burning air, or products of combustion, are in its ordinary operation carried into the casks.

Complainant's counsel have introduced, in the way of leading questions, to which this witness says yes, a theory that this machine would not work because it is to be used in a close room, where no air would have access to the furnace to feed it.

To this we have to say, that the assumption that it is used in a close room is entirely gratuitous, as the close room is described as used in another method of heating.

Second, that if there was nothing in the description specifically pointing out that the blast was to be fed by free air, this is sufficiently implied in the statement that a blast is used. No mechanic has to be told that a rotary fan must have access to free air to be operative.

Third, that it is distinctly stated in that part of the description which refers to the use of the pit furnace in a close room, that there must be a channel to supply outside air.

Fourth, the method of the opening of the door at the side of the furnace to let in "cold air" shows conclusively that the furnace was not used in a close room.

Not even a new use for an old machine.

The exhibits already referred to show clearly that the patentees neither invented a new process nor a new machine, nor any new combination of co-operative elements, nor put an old machine to any different kind of work than that which it had before been used for. Every element of the process is found accomplished by the same agency and producing the same result in the Seibel machine as used long before the date of complainant's patent, and the result is produced for identically the same object. The same process, so far as the several operations performed by the machine and the immediate result produced are concerned,

is also found in the Cochrane & Slate patent, the Pewterer's blast, the Devaux patent, and the extract from Der Bierbrauer of 1861, and Handbuch der Bierbrauer, 1854.

The effect of such a furnace in decomposing the air is specifically stated in the Devaux patent and in Der Bierbrauer of 1854.

The arrangement of the furnace without, and conveyance of the blast from it by means of a connecting pipe, produces no difference in the process or result, is shown to be a perfectly familiar and obvious expedient wherever the blast is to be applied at a distance from the furnace, or where it is to be applied to an interior having a limited aperture, and is shown to have been a common expedient, not only for heating the interior of other receptacles, but for heating the interior of casks and barrels.

Machines corresponding in every material feature to the complainant's, and capable of application without change to the same purpose, are shown to have been commonly used for the same class of work long before this patent, and the properties of the resulting blast are fully pointed out.

It is only the use of the intelligence of a well-informed mechanic in selecting one out of the existing machines or existing tools for the kind of work he has in hand. The well established doctrine that the application of an old machine to a new use is not patentable, is not to be avoided by calling it some other name, such, for instance, as "the process" of doing the particular work "by means of" the particular machine, or "the combination" of the old machine with the new subject-matter upon which it is put to work. This doctrine strikes at the substance, not the mere verbalism. It is not to be evaded by any play on words.

There may be a new process where only old machinery is used, and there may be a new combination where only old elements are used, but in the first instance the process must be new in the series of effects produced, not simply in the use of one rather than another of existing machines for producing either of the particular effects, and in the

other case the combination must be of elements organized to co-operate for the production of a single effect, not simply the combination of an old machine with the passive subject-matter upon which it operates to do its ordinary work.

A pump which has only been used to pump water may be much more efficient, convenient, and economical than any which has been used to pump petroleum, but the application of it to the pumping of petroleum can not be made patentable by denominating it "the process of pumping petroleum by means substantially as described for the purpose of using it as a fuel," or "the combination of the pump constructed as described with a petroleum well for the purpose set forth," the pumping of petroleum for this purpose by other constructions of pumps being old.

There is not a new process, for pumping petroleum is old. There is not a new machine, for the pump is old as a pumping agent. It has the same kind of advantage over other pumps when used for pumping petroleum that it has when used for pumping other liquids. It has no other kind of operation when applied to petroleum than it possessed in its former uses. There is only the application of an old machine to a new use which it serves by virtue of the same properties which it possessed in its former use. It is not patentable, and no artifice in framing or construing the claim for it can make it so.

NO NEW USE OF THE BLAST.

Complainant has insisted that there is a new use made of the hot blast.

The answer to this is:

First. This is not the fact. The same use, for the same ultimate purpose, was made of a blast of the same properties, produced in the same way, in, among others, what has been designated the *Seibel* machine. About this there can be no dispute. The deoxygenation of the blast was more perfect, and the economy of application greater, in the Seibel machine than in complainant's. The patent undoubtedly was drawn and granted solely on the theory that the use

of a deoxygenized blast of hot air for heating the inside of casks, or any other receptacles, was new and constituted the essence of complainant's invention. It was originally upheld solely upon that theory. The Seibel machine and "Handbuch fur Bierbrauer of 1854" tear this assumption up by the roots.

The application of the same blast to heating the interior of wooden casks is also shown in "Der Bierbrauer, 1861."

Second. Heating the interior of casks by a blast before used to heat the interior of other receptacles is not a new use of that blast.

It is simply employing it for its well-known and accustomed use. The use of the blast in the Cochrane & Slate patent and the Pewterer's Blast, as well as in the machines above named, is the same use as that to which complainant puts it, viz., that of heating the interior to which it is applied.

If, as was assumed by Judge Blodgett, the patentee had been the first to apply heat to the interior of a cask before pitching it, they might have been entitled to a patent for the process of treating the cask by first heating it and then applying pitch, but the validity of the patent would depend upon the novelty of the successive applications of heat and pitch to the cask—not upon the use of one rather than another of the existing and well-known means for applying either of them. The patent would then be for the new series of effects produced upon the cask, not merely for the use of one rather than another of known mechanical means for producing an old effect.

Third. The only office of a hot blast is that of a heating agent—the same office which it performed in the Seibel, the Cochrane & Slate, the Pewterer's Blast, Handbuch Für Bierbrauer, 1854, *Der Bierbrauer*, 1861, *and many others.*

Its advantages and disadvantages, when substituted for other means before used for heating casks, was precisely the same which it possessed in each of the prior uses. Its non-combustible properties are admitted by complainant's expert to have been familiar to those skilled in the

art, and accessible in scientific works, for more than a century past. (See *dep. Haines, p.* 131, *ans.* 212, 213.) They are very specifically pointed out in the Devaux patent, and are mentioned in connection with the use of the blast to pitch casks, in "Handbuck Fur Bierbrauer, 1854." This result was not only obtained, but fully understood, in the Seibel use, while complainant's patent does not even mention the importance of such a mode of applying the blast as will secure its non-combustible properties.

WHY OLD MACHINES WERE NOT APPLIED TO THIS USE BEFORE.

Judge Blodgett and Judge Dyer put with much emphasis the question why, if it required no invention to put old machines to the same use as the Gottfried, it was not done before. The same question could be put with equal force to every case where an old machine is applied to a new use. It applied with equal force to all the cases hitherto cited. It may also be answered that the use of the Seibel machine was in effect an application of these old machines to the very purpose, the simplest form of it being used.

But we do not have to stop with these answers. The record shows that up to about the close of the war very little beer was shipped in kegs; the breweries were also on a small scale, comparatively little pitching was done—this was mostly pitching of casks for which the Seibel machine was used.

The few kegs were pitched by the hands about the breweries in what would otherwise be idle time, and an outlay of some hundreds of dollars for a furnace, blower, and power to work it, would have been a waste. (See *dep. Moerlein, p.* 179, *ans.* 1–14; *Lackman, p.* 203, *ans.* 1–10; *Reutti, p.* 153, *ans.* 14–17.)

Besides, it appears to be universally understood by the brewers to this day that the pitching by hand, where the pitch is ignited by the introduction of free oxygen, is much more perfect than the pitching done by this machine. In many instances they take pains to light it

afterward. (See *dep. Moerlein, p.* 180, *ans.* 19; *Kaufman, p.* 155, *ans.* 2–3; *Reutti, p.* 153, *ans.* 13.)

It is very significant evidence of the fact that the application of the hot blast by means of conducting a blast from an ordinary blast furnace into the cask, was a perfectly obvious mechanical expedient, that, just as soon as the use of keys in sufficient numbers to warrant the expense of such a machine begun, the builders of blast furnaces, and others, at once in various parts of the country, began to apply them in various modifications of form, without ever once hearing of the Gottfried machine or patent.

Mechanical appliances involving the use of power are only adopted to profit where work is to be done on a considerable scale. A carpenter, working in a small way, drives his lathe by foot. When he enlarges his shop he drives it by an engine which he can only use profitably when working on a large scale. The change is not invention. It is just such an adoption of existing mechanical agencies that the brewers have made as their works have been enlarged and the use of kegs increased.

The brewers generally, never having heard of this patent, as their business increased in size went to the most convenient foundry and got a furnace answering their purpose, and obtained from other sources a fan and machinery to run it, and applied them with as little idea that there was any novelty in it as if they were simply putting a new stove for heating purposes in their offices.

The Vogt machine, of Louisville, is shown to have originated so near the time of Gottfried's that it was doubtful which was first, and it is a far more perfect machine than that of the patent. The Reutti machine, the Schindler machine, the Fritsch & Blettner machine, and others referred to in the record, are illustrations of this. (See *dep. Reutti, p.* 151, *ans.* 3–12; *Blettner, p.* 146, *ans.* 1–17; *Kaufman, p.* 156, *ans.* 4–10; *Rump, p.* 137, *ans.* 2.)

That these were not copied from the Gottfried machine is shown, first, by the fact that the witnesses testify they had never heard of it, and second, by the fact that none of

them resemble the Gottfried in their structure. They are fashioned after older machines, such as the Pewterer's blast, or the blast furnaces with which the mechanics were familiar.

John Kaufmann, one of the defendants in Cincinnati, testifies that his present machine, which is shown in the record, was made by his order from plans made from a blast furnace near him in 1862. (See *p.* 172.)

It is plain that there was no waiting for this application of the machine. Its applicability was recognized by everybody the moment there was occasion for it.

The complainant waited until machines, far better fitted than his in their structure for the purpose, had been generally introduced and put in use by others, and then, just as his patent was expiring, for the first time laid claim to tribute from them.

The evidence shows that the Seibel machine is still preferred for pitching the kind of casks to which Gottfried applied his machine (see *dep. Moerlein*, *p.* 179; *Lackmann*, *p.* 203); that many brewers still prefer to pitch their kegs by hand (see *same deps.*), and that the Gottfried machine, as shown in his drawing, is too crude to be of any practical value.

NO JOINT INVENTION.

The answer denies that there was any joint invention, and the record supports the denial.

Holbeck had nothing to do with the construction of the machine. He simply furnished the information that any mechanic, or any work on mechanics, would have furnished, that a rotary blower was a common means of propelling the blast. (See *dep. Gottfried*, *p.* 76, *ans.* 71–75.) This does not make him in any sense a joint inventor, though the effort to prove him such illustrates the paucity of invention in the whole affair. If this method of applying the blast gave Gottfried occasion for some planning, it did so only because he was ignorant of what every intelligent mechanic knew.

INFRINGEMENT.

Defendant's machine is shown opposite page 147 of the record. It is a heavy iron hod or fire pot, closely resembling the Pewterer's blast. It is far superior in construction and arrangement to that shown in complainant's patent, and is especially adapted to small kegs and used solely for them. While not falling literally within the first claim, it falls within the construction hitherto given it to just the same extent as does the Seibel machine, the Pewterer's blast, the Cochrane & Slate, and other prior devices. If this claim is construed as for any changes introduced by the patentees in the construction of these old machines, the defendants' machine does not follow any of these changes.

The second claim is not infringed. Defendants have no removable pipe corresponding to E of the patent. The only pipe they have is one screwed fast to the furnace, corresponding to E′ of the patent. This pipe can not, like the pipe E, be removed while the machine is in use, nor indeed at any time without a powerful vice. It is necessarily cast separate, but when once attached is less easily removed than the permanent pipe of complainant's machine.

If the second claim were to be construed as covering any pipe that can be detached from the machine by unscrewing, it would be fully met by the Cochrane & Slate and the Devaux machines. This claim does not pretend to be limited to the particular kind of vessel the machine is used to heat.

A removable pipe is a common device, and does not answer any new purpose or require any new adaptation when used on this machine. It would seem to be no more patentable than the application of a removable stove-pipe to a base-burner stove which had been commonly used with other stoves. It falls within the doctrine of *Hailes* v. *Van Wormer*, 18 Wal. 353, and *Hotchkiss* v. *Greenwood*, 11 How. 248.

UTILITY.

While utility is a necessary element in patentable invention it does not of itself constitute such invention. In the cases hitherto cited utility was conceded. In many of the illustrations of the application of an old machine to a new use, given by Justice Story in *Bean* v. *Smallwood*, such, for instance as the application of a steam engine to the main wheel of a cotton factory, there would be large utility. It is only when there is some change in the structure of a machine or in the kind of result produced that utility may be taken as one of the evidences of the sufficiency of that change to warrant a patent. Every application of an old machine to a new use presumably has utility or it would not be practiced.

But the assumption of special utility in the present case is wholly fictitious. It can not be and has not been claimed that the Cochrane & Slate machine when applied to the heating of casks has any different kind or degree of utility, as compared with the Seibel machine which had before been used for this purpose, than it had when used as it had before been for heating the interior of flasks, or that the transposition of the Seibel machine to the exterior of the cask gives any different kind or degree of utility from what a similar location gives any machine used for heating any kind of small receptacle.

The utility now claimed by complainant is not what is found in the machines shown in his patent, but a utility which comes from subsequent improvements in the structure of the furnace, the quality of blower, etc. When he makes experiments he is careful not to take the machine shown in the patent. He admits that he never has used or sold such a machine and does not think it would be practicable. (See *dep. Gottfried, p.* 36, *ans.* 51.) His expert admits the same. (See *dep. Graham, p.* 94, *ans.* 79. See also *dep. Reutti, p.* 152, *ans.* 7-10; *Blettner, p.* 147, *ans.* 10-13.)

Great stress is laid on the deoxygenation of the blast. Aside from the evidence showing that this was not original with the patentees, even for the purpose of heating casks

for pitching, it is clear that their patent does not provide for it. Their patent not only does not mention the deoxygenation of the blast, but does not suggest the importance of such a construction as would result in deoxygenation. On the contrary it shows an arrangement that does not deoxygenate. So far as the language of the claim implies any thing on the subject it implies that the blast is not deoxygenated.

Under these circumstances the patent can not rest on the deoxygenation as any part of the invention covered by it. The most favorable construction that can be given it is that the presence or absence of deoxygenation is a matter of utter indifference; in other words, that it is no part of the invention claimed.

The objection is not that the patent fails to point out the scientific effect of driving the blast through the fuel, but that it fails to indicate that the invention involves driving it through the fuel, and indicates the reverse. The utility of the complainant's invention must be judged by what is shown in the patent, not by subsequent improvements on it. So judged it is not merely inferior to the Cochrane & Slate, the Seibel and other older machines, but practically worthless.

It is also shown that the quality of pitching is not improved, but the reverse, it being generally understood that the effect is better where there is ignition. (See *deps. Moerlein, p.* 180, *ans.* 19; *Kauffmann, p.* 155, *ans.* 2-3, and *Reutti, p.* 153, *ans.* 13.)

AUTHORITIES.

The proposition that the application of an old machine to a new use is not patentable invention, is too well established to be open to dispute.

In *Bean* v. *Smallwood*, 2 Story, 408, Justice Story in holding invalid a claim for the mode of doing a certain thing by certain specified means—a claim quite as capable as complainants of being construed as for the process of accomplishing the result by the particular means recited, says:

"Now, I take it to be clear that a machine or apparatus, or other mechanical contrivance, in order to give the party a claim to a patent therefor, must in itself be substantially new. If it is old, and well known, and applied only to a new purpose, that does not make it patentable. A coffee mill applied for the first time to grind oats, or corn, or mustard, would not give a title to a patent for the machine. A cotton-gin applied without alteration to clean hemp would not give a title to a patent for the gin as new. A loom to weave cotton yarn would not, if unaltered, become a patentable machine as a new invention by first applying it to weave woolen yarn. A steam engine, if ordinarily applied to turn a grist-mill, would not entitle a party to a patent to it if it were first applied by him to turn the main wheel of a cotton factory. In short, the machine must be new, not merely the purpose to which it is applied. A purpose is not patentable, but the machinery only, if new, by which it is to be accomplished. In other words, the thing itself which is patented must be new, and not the mere application of it to a new purpose or object."

In *Phillips* v. *Page*, 24 How. 164, the machine was a saw mill adapted to saw large logs, a similar combination to what was claimed had been used in a small machine, only adapted to saw shingles. The court below had held that as the purpose stated in the patent was to saw logs, and the small machine had neither been used for that purpose nor capable of it, it could not invalidate the patent. The Supreme Court in a unanimous opinion, per Justice Nelson overruling, the court below says:

"Nor does the enlargement of the organization of the machine compared with the old one (the same being five feet in diameter, and the other parts corresponding) afford any ground, in the sense of the patent law, for a patent. This is done every day by the ordinary mechanic in making a working machine from the patent model. The patentee in the present case must carry his improvements farther, in order to reach invention, he must contrive the means of adapting the enlarged old organization to the new use, namely, the sawing of saw logs, and claim not the old parts, but the new device by which he has produced the new results.

"The learned judge, by interpolating the new purpose

of the improvement, namely, the sawing of logs, not only inserted what was not specified in the claim, but if it had been it would not have helped out the difficulty, as it was in effect, upon the construction given, simply applying an old organization to a new use, which is not a patentable subject."

In the course of the opinion the court says, "The utility is not questioned."

In *Sawyer* v. *Bixby*, 9 Blatch. 361, Judge Woodruff, holding a patent invalid, says:

"They are old means, and they produce their old and obvious, well known result. In combination there is no other effect. Each performs the same office in the same manner as it does when employed for any other purpose, and precisely as it must, whatever be the form of the package, or the particular use to which the package is applied. The employment of these instrumentalities, in putting up packages for transportation, is, therefore, the exercise of judgment in selecting, not of invention in devising or combining. At most it consists in applying old devices to a new use, which when it involves no new means and produces no new effect, is not patentable, notwithstanding it may be useful to combine the two results, by uniting the two instrumentalities."

In *Smith* v. *Nichols*, 21 Wall. 112, the Supreme Court in a unanimous opinion delivered by Justice Swayne, says:

"But a mere carrying forward or new or more extended application of the original thought, a change only in form, proportions or degree, the substitute of equivalents, doing substantially the same thing in the same way by substantially the same means with better result is not such invention as will sustain a patent. These rules apply alike, whether what preceded it was covered by a patent or rested only in public knowledge and use. In neither case can there be an invasion of such domain and an appropriation of any thing found there. In one case every thing belongs to the prior patentee, in the other, to the public at large."

In *Roberts* v. *Ryer*, 1 Otto, 150, the utility of the invention was admitted by the court. It was also admitted

that the prior refrigerator had not utilized the downward current, which was claimed as the special merit of complainants.

The Supreme Court, in a unanimous opinion, per Chief Justice Waite, holding the patent invalid, says:

"It being, then, certain that Lyman contrived a machine which would produce the desired circulation, and could be used for refrigeration in the ascending current, it remains only to consider whether, if one desired to make use of the descending current for the same purpose, he could claim such use as a new invention.

"It is no new invention to use an old machine for a new purpose. The inventor of the machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not."

See also—

Brown v. *Piper*, 1 Otto, 37.

Morton v. *N. Y. Eye Infirmary*, 5 Blatch. 116.

In *Hotchkiss* v. *Greenwood*, 11 How. 248, the Supreme Court, per Justice Nelson, holding invalid a patent, which claimed what was literally new and admitted to be useful, says:

"For, unless more ingenuity and skill in applying the old method of fastening the shank and the knob, were required in the application of it to the clay or porcelain knob, than were possessed by an ordinary mechanic, acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the work of the skilled mechanic, not that of the inventor."

In *Moffitt* v. *Rogers*, 8 Fed. Rep. 147, Judge Lowell says:

"As I intimated at the hearing, I am not aware that a patent has ever been sustained for a process or method which consisted of employing an old machine for the very purpose for which it was made. If any person discovers

how to use an old machine to the best advantage, he is only a skillful workman, not an inventor. The plaintiff undertakes to prevent the owners of a machine made for molding counters from using it to finish counters already begun upon another old machine for making counters. He might as well, in my opinion, claim a patent for passing a counter twice through the same machine.

"I do not mean to say that a patent can not possibly be supported for a process or method which consists only of applying an old machine to a new use. Many of the ablest writers and jurists assert that such a claim is possible. I have never seen a case in which a patent of this sort has been sustained, and there are some in which it has been rejected. If one is ever supported it will be when the new use is so remote from the old use that a court or jury can say that a new idea has been discovered."

See Dryfoos vs. Searle 124 U.S. 60.

In all the cases cited the utility was unquestioned, in most it was expressly referred to by the court as being beyond controversy. The claims in controversy were in some cases in terms for the mode of doing the particular thing specified—in others they could have been construed for the "process" in the same sense that complainant asks to have his claim construed. In none of these cases was the claim in terms for the application of an old machine to a new use. It was always sought to disguise the fact that such was the effect of the claim by treating it as a new process, or new combination, or new manufacture. But the court, looking through the language of the patent, to the substance that lay behind it, found that in the light of the prior art as exhibited before it, there was no novelty except in the application of an old machine to a new use, and held that not patentable—no matter how adroitly the claim was framed.

The opinions cited are all from judges considered favorable to patents. Those which are most solicitous to protect the rights of real inventors, who have added to the stock of the world's arts or machines, are also most alert to discriminate between inventive genius and mere mechanical judgment in selecting and appropriating existing mechanicism for any use to which it is adapted, and

to protect the mechanic and manufacturer against the intolerable restrictions which would be placed on their judgment and skill if they were not at liberty to do any kind of work which was in itself old by any machine which was in itself old.

It is as important not to discourage intelligence in the selection and use of machinery as to encourage invention of new machines or new arts.

It would be a most crippling blow at the industrial arts which the patent law is designed to promote, and most discouraging to the exercise of intelligence and enterprise in those arts, if it were to be held that the use of an old heating machine for the same kind of work for which it had long been familiar, where the application of heat for the particular object in view was old, could be appropriated as a monopoly to be sprung upon the public as this has been sprung.

With such a doctrine established, no mechanic can put a machine or a tool to its familiar use without first inquiring whether it has before been used with the same ultimate purpose in view.

EQUITABLE ESTOPPEL.

Defendants have pleaded in their answer:

"That for many years since the issue of said patent to Gottfried and Holbeck machines similar in construction and in mode of operation to those now and heretofore used by these defendants, and by the use of which they are charged with infringement in said amended bill of complaint, have been commonly manufactured, used, and sold throughout this country by many different persons with the full knowledge of the complainant, and without his asserting or pretending to have any exclusive right thereto, though having the same title then as now under said letters patent; that these defendants and the public generally have thereby been led to suppose, and have, up to about the time the amended bill of complaint herein was filed, supposed, that they had the right to make, use, and sell said machines, and that the complainant fully recognized and accorded said right, and made no claim to any exclusive right therein; that said complainant has thereby become

estopped from asserting any exclusive right in or to any of said machines or the processes for which they are and have been used, and all title thereto would thus be abandoned to the public, if any such title ever had been vested in him by said letters patent."

The Vogt machine, for the use of which defendants are charged with infringement, has been a common article of sale, for the purpose for which they used it, since about 1866, and sold in considerable quantities (*Dep. Reutti, p.* 151, *ans.* 3–12). The identical machine by which the first two mentioned defendants are charged with infringement was purchased and put into use in January, 1875 (*Dep. Vail, p.* 44, *ans.* 1). Complainant has known of this manufacture and sale and the manufacture and sale of other similar machines since about 1867, and has allowed it to go on without ever bringing suit against either manufacturer or dealer, and without notice to the defendants that he should dispute their right to use such machine (*Dep. Gottfried, p.* 233, *ans.* 166).

It is submitted that the patentee can not thus lie idle and encourage the public to deal with strangers, and, after the lapse of many years, have relief in equity against the users. Whatever might be the right to relief at law, his right to relief in equity is forfeited. The practice of allowing manufacturers and dealers, who are the patentees' real competitors in trade, to go unmolested, and, after a long period of years, attacking users of single machines, who have innocently acquired them and put them into use, holding over such users the threat of the large expense of litigation, and compelling them to make extortionate settlements, is not one to receive encouragement or assistance in this court.

MEASURE OF DAMAGES.

The master has altogether ignored the inquiry into actual damages inflicted upon complainant by this infringement, and disregarded the facts by which the maximum limit of this actual damage is definitely fixed, and all facts of any nature proved in the cases, and substituted

a visionary speculation as to the value of the invention in the abstract—not the value of it to the complainant by any method of enjoying it ever established, or sought to be established, or contemplated by him; not the advantage derived from it by the defendants (which had been excluded from his consideration by complainant's waiver), but its abstract theoretical value as an invention.

This speculation he does not found on any computations from data of facts (though such data must have been procurable if this inquiry were legitimate), but, disregarding the fact that the machine had little, if any, appreciative utility over older devises and methods, which was incontestably shown by the history of the art, and by actual tests, and the fact that such old devices and methods had continued to be used side by side with it, and even in the same brewery with it, and that complainant's machine has never gone into practical use except with subsequent improvements, he has conjectured (not calculated) the damage inflicted upon complainant by the use of a single infringing machine, upon which, if his rights had been respected, the entire royalty, as fixed by him, would not have exceeded $20, as $9,676.40. He claims to justify his results by several settlements represented to have been effected by complainant with infringers after the suit commenced, and by speculative opinions of witnesses, who neither give nor show themselves possessed of any data to support their opinions, and whose conduct has been inconsistent with them. The earliest of these settlements dates more than five years after defendants' machine was put into use, and about one year before the expiration of the patent. None of them approximates the amount which he here assesses, all of them being mere settlements of litigation made under compulsion, and at rates that were cheaper than a successful defense would have been.

After the waiver of profits by defendants, the sole question before the master was what injury or loss was inflicted upon complainant by the trespass of defendants. This can not exceed the direct advantage which his ex-

idence shows would have accrued to defendants if plaintiff had respected instead of violating his rights, and of which he has been deprived by their trespass. Where, as in the present case, the invention is one which it is for the interest of the patentee to have adopted as extensively as possible, and where for any reason it is offered for sale to the public by him or his licensees, the damage inflicted upon him by the purchase and putting into use of an unauthorized machine can not exceed the loss of the royalty which he would have received had the machine been purchased of him, or his licensees, at the rate they were offering them for sale to all who would purchase.

The damage done the patentee is not in the use of the machine, for he is no worse off then if the defendants had altogether abstained from its use. It is only in the use of an unauthorized machine, instead of an authorized machine, and the consequent deprivation of the patentee of the royalty which would have accrued to him if they had purchased of him or his licensees at the price established at the time.

In some cases the word damage is used in the general sense as synonymous with recovery, and without distinguishing between what is strictly damages suffered by plaintiff, and what are profits acquired by defendant, but this distinction is very fully pointed out whenever it is under consideration, and the rule that the inquiry primarily is what is the plaintiff's actual loss, and not what is made by the defendant, or what might have been made by the defendant, or what is the speculative value of the invention, is recognized and applied. See—

McCormick v. *Brodie*, 1 Woods, 153, per Woods, J.
Sanders v. *Logan*, 2 Fish. 167 (170), per Grier, J.
Cowing v. *Rumsey*, 8 Blatch. 36, per Woodruff, J.
Ransom v. *N. Y.*, 1 Fish. 252 (275), per Hall, J.
N. Y. v. *Ransom*, 23 How. 287.
Zane v. *Peck*, 13 F. R. 449, per Shipman, J.
Seymour v. *McCormick*, 16 How. 480.

McCormick v. *Seymour*, 3 Blatch. 209 (224), per Nelson, J.
Packet Co. v. *Sickles*, 19 Wallace, 611 (617).
Birdsell v. *Coolidge*, 93 U. S. 64.
Walker on Patents, 387 *et seq.*

The distinction between damages suffered by complainant and profits made by defendant, is in terms recognized by the statute, and if it were not, the disclaimer of complainant would eliminate from these cases any element of recovery based upon either actual or theoretical profits of defendants.

The controlling rules for the ascertainment of damages in this class of cases, as recognized and applied by the authorities above cited, and by the decisions and textbooks generally, may be summarized as follows:

First. Where the patentee's mode of enjoying his franchise, at and prior to the time of infringement, has been by granting to manufacturers license to sell the patented machine generally at a fixed royalty for each machine so sold, that royalty furnishes the maximum limit of his damages, and in order to recover that he must show affirmatively the rate of such royalty, and the number of machines made, used or sold by defendants in infringement of his rights, or, failing so to do, recover only nominal damages.

Second. Where the patentee adopts as his method of enjoying his franchise the reservation to himself of the exclusive right to manufacture and sell the patented article, offering it for sale generally, the sale carrying with it the right to use the article, or resell it for use (as it does in the absence of express provision to the contrary), the maximum limit of his actual damages by reason of infringement would be any profit which he would have made by the sale of the infringing articles at rates established by him in ordinary business dealings at or prior to the infringement, minus what are termed "manufacturer's profits;" but before he can recover this, he must prove by definite evidence the amount of this net profit per machine which he was

realizing in ordinary business transactions, or would have been realizing at and prior to the time of infringement but for the specific trespass of the defendants, and that he was prepared to supply the market of which he has been deprived by defendants' infringement, and was using such reasonable diligence in introducing the patented articles as to raise a fair presumption that he would have sold the patented machine in place of the infringing article, if the latter had been out of the way. If he fails to show definitely by competent evidence the net profit per article which he was at the time making in ordinary business dealings, he must fare like any other plaintiff who fails to furnish the necessary data for computing his actual damages, and recover only nominal damages. If he appears to have used no such diligence in pushing the sale of his patented article as to make it probable he would have supplied the market, or realized any othes profit of which the infringer has deprived him, he can not be held to have suffered any actual damage by reason of the defendant's infringement. He can not recover of defendants what he has failed to realize through his own laches, and what there is no probability he would have made if the infringement had been out of the way.

Third. Where the patentee has adopted as his method of enjoying his franchise the retention to himself of the sole right of using the invention, and is making his profit by the advantage over competing manufacturers which his invention gives him, the damages are still to be measured by the profit which it is shown would, but for the trespass of the defendant, have accrued to him under his mode of enjoying the franchise established at the time, and of which he has been deprived by that trespass. This must be shown by the plaintiff by the most direct and definite evidence available to him, the primary inquiry being of what profit has the plaintiff been deprived which he was actually in the way of realizing out of its franchise, and would have realized but for the interference of defendants. This mode of enjoying the franchise is only available in a limited class of inventions, such as those which can be operated in one

place to produce a product to supply the entire country. It would not be practicable with any invention of the nature of complainant's, which must be used, if at all, in connection with scattered business establishments existing independently. Neither complainant nor any one interested in or under the patent ever undertook to enjoy this franchise in this way, and any inquiry which might have arisen if they had is not pertinent here.

Fourth. Where the patentee has not sold the patented article, or placed it in the power of others to sell it, but has established, by ordinary commercial dealings prior to the date of infringement, a uniform license fee for the use of the article, where the public have voluntarily availed themselves of the invention on these terms, introducing and continuing its use, subject to such license fee actually paid by them, to a sufficient extent to indicate that it was a fair market value; where the payment of that license fee was the only or the most favorable terms at which the infringer could at the time have acquired the lawful right to use the article, and where the circumstances of the infringement are such as to create a reasonable presumption that the infringer would have introduced a patented machine and paid such established license fee if he had not acquired the infringing machine; the license fee so established and acquiesced in, at and prior to the date when defendants acquired the infringing article or articles, would ordinarily afford a measure of the profit the patentee would, in the ordinary course of business, have obtained from the lawful use of the infringing article. All the conditions named must be present to enable the patentee to recover on the basis of such a license fee. Here none of them are present.

At the time defendant's machine was put into use, as well as during the entire term of the patent before and after that date, machines lawfully authorized under the patent were on sale to all who would purchase them, the sale carrying with it the unqualified right of use. This was the only mode of introducing or putting into use such machines ever undertaken or proposed. Not one was either

offered or accepted on any more onerous terms. If the defendants had been in ever so urgent need of the machines, there is no circumstance out of which imagination can weave a possibility of their having paid for it more than the price at which it was lawfully on the market, or of the complainant having been benefited by their respecting his franchise beyond the royalty he was at the time getting on the sale of the machine.

In *Buck* v. *Hermance*, 1 Blatchford, 398, Justice Nelson, who had given great attention to this class of cases, and certainly never leaned against the interests of patentees, stated the rule of damages as follows (*p.* 406):

"It is admitted by the defendant that he has manufactured one hundred of his stoves. It appears that the profits derived from the manufacture of the Buck stove are two dollars, or two dollars and a half, for each stove. The rule which is to govern the question of damages is, to give the actual damages, not vindictive or exemplary damages, but the actual loss sustained, which will be the ordinary profits the patentee derives from the sale of his stoves."

In *McCormick* v. *Seymour*, 2 Blatch. 240, which was a suit for infringement of two patents on reaping machines, the same justice charges the jury to substantially the same effect, telling them that they are to determine

"The loss which has been sustained by the patentee; or, in other words, the profits he would have made if the infringement had not occurred" (*p.* 259).

He cautions them that, in order to ascertain the profits accruing to the plaintiff,

"They must first ascertain the cost of the materials and labor, and the interest on the capital used in the manufacture of the machines. You must also take into account the expense to which the manufacturer is subjected in putting them into the market, such as that of agencies and transportation and insurance; and, where the article is sold on credit, a deduction must also be made for bad debts. All these things must be taken into account, in or-

der to bring into the cost every element that properly goes to constitute it in the hands of the manufacturer. When you have ascertained the aggregate sum of the cost, deduct it from the price paid by the purchaser, and you have the net profit on each machine. By this process you are enabled to approximate something like the actual loss that the patentee sustained" (*p.* 258).

This case was taken to the Supreme Court and reversed, because this charge was too liberal toward the plaintiff. It is reported in *Seymour* v. *McCormack*, 16 How. 480. The error found is thus stated in the syllabus:

"In the suit for violation of the patent of 1847, it was erroneous in the circuit court to say that the defendant was responsible in damages to the same extent as if he had pirated the whole machine.

"It was also erroneous to lay down as a rule for the measure of damages the amount of profits which the patentee would have made, if he had constructed and sold each one of the machines which the defendants constructed and sold. There was no evidence to show that the patentee could have constructed and sold any more than he actually did."

In the opinion the court says (*pp.* 490, 491):

"Where an inventor finds it profitable to exercise his monopoly by selling licenses to make or use his improvement, he has himself fixed the average of his actual damage when his invention has been used without his license. If he claims any thing above that amount, he is bound to substantiate his claim by clear and distinct evidence. When he has himself established the market value of his improvement, as separate and distinct from the other machinery with which it is connected, he can have no claim in justice or equity to make the profits of the whole machine the measure of his demand. It is only where, from the peculiar circumstances of the case, no other rule can be found that the defendants' profits become the criterion of the plaintiff's loss. Actual damages must be actually proved, and can not be assumed as a legal inference from any facts which amount not to actual proof of the fact. What a patentee 'would have made, if the infringer had not interfered with his rights,' is a question of fact and not

a 'judgment of law.' The question is not what he speculatively may have lost, but what actually he did lose. . . . This enormous and ruinous verdict is but a corollary or necessary consequence from the instructions given in that portion of the charge of the court on which we have been commenting, and of the doctrines therein asserted, and to which this court can not give their assent or occurrence."

The enormous and ruinous verdict referred to was one of about $17,000 for 300 reaping machines, or less than $60 per machine, for an invention incomparably more ingenious and valuable than that here in controversy, and the infringement had been carried on by defendants who were acquainted with patentee's claim before the infringement began. This case was again heard before Justice Nelson, who had sat in the Supreme Court when it was heard there, and was undoubtedly familiar with all the discussion that had taken place in the consultation room, as well as with the language of the opinion. It is reported in 3 Blatch. 209; he states the law thus (*p.* 224):

"In cases where a patentee avails himself of his invention, and of his exclusive right to the enjoyment of its profits, by putting it into market and selling rights under it, as is most usually the case with inventors—that is, rights for states, or counties, or smaller districts, or portions of the invention itself—in such cases, the customary charge for the right to use the patented invention is the measure of the damages which the patentee is entitled to recover, in case of an infringement, with interest upon the same from the time of infringement. In other words, if he is accustomed to sell a single right for the manufacture of a machine for twenty, thirty, forty, fifty, or one hundred dollars, and if that is his usual price for the right throughout the country, that fee, with interest from the time of the particular infringement, is the measure of damages for each infringement. But if the patentee comes to the conclusion not to vend to others the rights under the patent, and not to avail himself of the proceeds of sales of his mere patent right, but to use the patented invention exclusively himself, and to furnish the products to the community himself out of his own manufactory or establishment—in such cases, a different measure of damages is to be adopted by the

jury. And that is this: If the patent is for a machine, an entire machine, the patentee is entitled, as damages in case of infringement, to the profits he could have made in constructing and vending his machine, over and above the mere profits arising out of his manufacture. By that we mean the mere profits of its mechanical construction, and not the profits that grow out of the exclusive right to manufacture the invention under the patent. The latter belong to the patentee, while the former, the mere mechanical profits, are excluded from the damages."

It will be noted that, in case of an established royalty for the manufacture and sale of the machine, the court indicates that interest is to be allowed, but not so where the recovery is on an estimate of the profits to be made by the sale of the machine. This conforms with the rule more definitely laid down in subsequent decisions hereafter mentioned, to the effect that where there is at the time a fixed royalty measuring the franchise, it may be treated as liquidated damages to draw interest, while unliquidated damages, whether computed on the basis of profits or otherwise, do not draw interest.

In *Sanders* v. *Logan*, 2 Fish. 167, an equity case, Justice Grier says (*p.* 170):

"The invention claimed is for an improvement in the machinery of grist-mills, and the only injury to plaintiff's rights exists, not in using his invention, for it is to his interest that all mills should adopt and use it, provided he is paid the price of a license. Such price or value of a license is the true measure of the actual damage suffered, and of the remedy which the patentee can obtain, or has a right to claim in equity."

In *Ransom* v. *Mayor of New York*, 1 Fish. 252, Judge Hall instructed the jury (*p.* 275) that the measure of recovery was:

"Such damages as they have shown, by their proofs, have been actually sustained by them in consequence of the use of the invention patented, without their license or consent, by the fire department of the city of New York."

That the extent of benefit accruing to the defendant should form "an element for consideration;" that if the patented engines by their superior efficiency enabled the defendant to dispense with twenty-five other engines,

"the jury are at liberty to infer, if they think the inference a just one, that the defendant, in its corporate capacity, has saved the cost of the purchase and operation of the additional number of engines, . . . and that the corporate authorities, if they had admitted the plaintiff's rights, would have paid the amount of this additional cost, or a large portion of it, as the consideration for a license to use this invention rather than to abandon its use."

That it was as bearing upon the probability of defendants having paid such license fee if they had not infringed; that the saving made by them was the proper subject for consideration, and that the jury must be careful (*p.* 276):

"to give the actual damages proved, and not to speculate upon the possibility or even probability of damages beyond such as are proved to have been sustained by the plaintiffs."

The jury found the damages for the use of fifty fire-engines to be $20,000. The defendants excepted to this charge, and it was reversed by the Supreme Court in *New York* v. *Ransom*, 23 How. 487, the Supreme Court holding, in a unanimous opinion, that the mere evidence as to the value of the invention afforded no basis of computing damages, even where there was no evidence that plaintiff had put the machine on the market so as to afford more direct evidence of the actual damage (*p.* 489). The court says:

"In the case of *Seymour* v. *McConnel*, 16 How. 485, it was decided by this court, that where the profit of the patentee is derived neither from an exclusive use of the thing patented, nor from a monopoly of making it for others to use, the actual damage which he suffers by the

use of his improvement without his license, is the price of it, with interest, and no more. It is to his advantage that every one should use his invention, provided he pays for a license. The only damage to the patentee is the non-payment of that sum when the infringer commences the use of the invention.

"As the plaintiff in this case did not furnish any evidence on which to found a calculation of actual damages, the court should have instructed the jury as requested by the counsel."

That is (*p.* 488):

"The plaintiffs have furnished no data to estimate actual damage, and therefore in no aspect of the case can they recover more than nominal damages."

The court further says (*p.* 490):

"It was of little use to caution the jury from giving speculative as any other than 'actual damages,' after the large margin of inference and presumption which they were permitted to take in order to find data by which to calculate them.

"It was said, in the case to which we have referred, 'actual damages should be actually proved, and can not be assumed as a legal inference from facts' which afford no data by which they can be calculated.

"In order to find out the plaintiff's loss or damage, the jury were allowed by the court to *infer* that the defendants have saved all the money indicated by the comparative powers of the engines with and without the improvement; and, after having made this inference, they may *presume* that the defendants would have paid this amount to the plaintiff for the use of his improvement.

"Thus the possible advantage or gain made by the use of plaintiff's improvemens on their machines is made the measure of his loss."

In *Packet Co.* v. *Sickles*, 19 Wall. 611, the court below had instructed the jury thus (*p.* 614):

"In estimating the amount which the plaintiff is entitled to recover the jury will take into consideration the value of the use of this machine, as far as the proof enables

them to ascertain its value from the sale of the machine itself, from the license of its use, from the capacity of the machine to economize in the expenditure of fuel, in the expression of the power of the engine, and from any other testimony that they may find developed in the case bearing upon the value of its use; the conclusion of the value not to be confined to the price of the patent when sold, the license for its use, or the value of its economies, but to be a deduction from all, under the rule of equity and justice, between parties dealing with each other in contract, and where it is expected that both are to derive advantages from their dealings."

This, like the charge of Judge Hall, in the case last cited, was exceedingly conservative as compared with the doctrine of the master in the present case. The Supreme Court, in its unanimous opinion, overrules this charge, saying (*p.* 617):

"In the case of *Seymour* v. *McCormick*, this court, on full consideration, and without dissent, laid down the proposition that, in suits of law for infringement of patents, where the sale of licenses by the patentee had been sufficient to establish a price for such licenses, that price should be taken as the measure of his damages against the infringer. The rule thus declared has remained the established criterion of damages in cases to which it was applicable ever since. . . . .

"(*P.* 618). Certainly, any unnecessary relaxation of the rule we have laid down in cases at law, where the patentee has been in the habit of selling his invention, or license to use it, so that a fair deduction can be made as to the value which he, and those using it, have established for it, does not commend itself to our judgment, nor is it encouraged by our experience.

"If such be the proper rule in case of the infringer, who uses the invention without license and against the consent of the owner, it should not be harsher against the party who uses it with the consent of the owner, express or implied, but without any agreement as the rate of compensation. In such case nothing can be more reasonable than that the price fixed by the patentee for the use of his invention, in his dealings with others, and submitted to by them before using it, should govern. . . . . The defendants have used, or are charged with using, the inven-

tion of the plaintiffs, with their consent, until the expiration of the patent. If this is proved to the satisfaction of the jury, the plaintiffs have furnished the rule which must measure their compensation, in the prices at which they have sold the same privileges to others, and they must be bound by it."

In *McComb* v. *Brodie*, 1 Woods, 153, Justice Woods says, speaking of the rule of damages (*p.* 161):

"This rule is not what defendant made by the infringement, or what he might have made, but it is the loss sustained by plaintiffs by reason of the infringement."

In *Cowing* v. *Rumsey et al.*, Blatch. 36, Judge Woodruff, after stating that "the true rule is, what the plaintiff has lost and not what the defendant has gained," says (*p.* 40):

"There may be cases so peculiar that there are no means of proving the plaintiff's loss without proof of the defendant's profits, and such proof becomes clearly admissible; but, even then, the recovery is what the jury shall find to be the plaintiff's loss, not because the defendant realized profits, but because, under all the circumstances, the jury infer, as a fact, but for the interference, the plaintiff would have realized those profits."

He orders a verdict for plaintiff set aside, because, inadvertently, language had been used in the charge from which the jury might have inferred that profits made by the defendant furnished a basis of damages.

In *Garretson* v. *Clark*, 15 Blatch. 70, Jud
held, where the complainant had failed tc
ficiently definite data to enable the master t
profit of which he had been deprived dire
fringement, nominal damages only should be awarded, and
the costs of the account charged upon the complainant, and refused to refer back the case.

In *Wooster* v. *Simonson et al.*, 16 Fed. Rep. 689, Judge Wallace says:

"When a patentee uses his monopoly by selling to others the privilege of using it, the law deems him completely indemnified if an infringer is required to pay him the sum which he has himself fixed as the value of the privilege."

In *Birdsall* v. *Coolidge*, 93 U. S. 64, the Supreme Court says (*p.* 70):

"Evidence of an established royalty will, undoubtedly, furnish the true measure of damages in an action at law, where the unlawful acts consist in making and selling the patented improvement, or in the extensive and protracted use of the same, without palliation or excuse; but where the use is a limited one, and for a brief period, as in the case before the court, it is error to apply that rule arbitrarily, and without any qualification."

In that case the defendants were users of machines which the plaintiff had allowed to be made and sold at a royalty of $100 apiece, and it appeared that he had sold rights to make upon these terms in considerable number. The recovery below was upon the basis of this $100 per machine. The Supreme Court set it aside as excessive, because the defendant's machine having been used but a short time it was plainly more than the actual damages sustained.

In *Blake* v. *Robertson*, 94 U. S. 728, the complainant had proved the amount of profit he was making on the machines he sold, but both the Circuit and the Supreme Court held that this was not sufficient to entitle him to recover. The Supreme Court says (*p.* 733):

"No license fee charged by the complainant is shown. The burden of proof rests upon him. Damages must be proved; they are not to be presumed. The complainant made a profit of forty dollars an inch on the width of the jaws of the numerous machines he had sold.

"But inventions covered by other patents were embraced in those machines. It was not shown how much of the profit was due to those other patents, nor how much of it was manufacturers' profits. The complainant was, there-

fore, entitled only to nominal damages. This the court gave him. It was all the state of the evidence warranted. It would have been error to give more."

In *Marsh* v. *Seymour*, 97 U. S. 348, the Supreme Court affirmed the finding below, awarding a license fee of five dollars a machine, under three patents for harvesters. (See *Walker on Patents*, 388).

The royalty referred to in all the citations as the prime and controlling measure of damages whenever it exists, is that at which the patentee has, in the ordinary course of business, licensed others to manufacture and sell the patented article, prior to the time of infringement, and corresponds to the royalty at which the complainant licensed the unqualified sale of machines, to wit, ten dollars per machine. Such a royalty furnishes the most exact standard of damages obtainable, because it measures distinctly the revenue derived from the franchise, the price paid for the right to exercise it in respect to each several embodiment of it; while the profits made by the manufacture and sale of the patented article include not only what is directly due to the franchise, but ordinary manufacturer's profits dependent upon the labor, capital, business skill and enterprise of the manufacturer, his facilities, shrewdness, and intelligence in purchasing materials, employing and directing labor, advertising, and creating a market, and quality of workmanship, and his reputation and acquaintance—elements which, in any class of manufacturing, often bridge the difference between large profits and large losses.

If the patentee, who is lying idle and seeing others introduce, under subsequent patents, improvements which he claims to be tributary to his patent, is allowed to recover on the assumption that all machines so introduced would have been, but for the infringement, purchased of him or those authorized under him, and so paid that which he was asking, this measure of recovery is an extremely favorable one to him, for it enables him to avail himself of extensive sales due to the enterprise, capital, reputation, and good will of others, and to the superior qualities of those subse-

quently patented machines. It would often be the case that the introduction of the machine by the infringer was due to these superior advantages, traceable to a subsequent patent, or to the fact of the machine being brought to his door and pressed upon him by some manufacturer with whom he was in the habit of dealing, and upon terms much more favorable than those on which he was offered the patented machine.

In the case of users, as distinguished from the manufacturer or dealer in the infringed machine, there would commonly be some reason of this character to explain why they purchased an unauthorized, instead of the authorized, machine, and there is no natural presumption to the effect that they would have purchased of the patentee if they had not been furnished otherwise, arising from the fact that they have constructed a machine for themselves, or had it constructed for them by some one who brought it to their door. The presumption is rather to the contrary, as a mere user of an article, unlike one who is manufacturing or dealing in it, has no interest adverse to the patentee, and if he purchases a different machine from that made under the patent, does so because it presents superior inducements.

The rule that the royalty must be that established and voluntarily acquiesced in prior to the date of infringement, and that the price paid for compromising pending actions, or existing rights of action, "does not establish or tend to establish a royalty," pointedly stated by Walker, seems too obvious on principle to need authority in support of it. The grounds upon which the royalty is treated as a measure of recovery, as stated in the authorities heretofore cited, distinctly exclude settlements with persons already infringers, whenever made, and make the royalty commercially established at or before the infringement the controlling one. Settlements made under the alternative of litigation are no expression of the commercial estimate of the article, or indication of what would be obtained by selling it. If they were, they could not be sustained as a measure of recovery against a royalty fixed by the patentee, at which the ma-

chines in controversy were voluntarily placed upon the market at and prior to the date of infringement.

Agreements of settlement between parties to litigation pending a controversy do not afford a measure of recovery against the parties themselves. It would be anomalous if agreements of this kind, to which one of the parties was a stranger, and procured by the other party, could be used as a measure of recovery against the stranger, especially where there was an accurate and definite measure of the actual damages sustained already available.

The Supreme Court, in *Packet Company* v. *Sickles*, before cited (19 Wall. 611), takes pains to point out (*p.* 618) that the royalty to be considered is "the price fixed by the patentee for the use of his invention *in his dealings with others, and submitted to by them before using it.*"

In *Black* v. *Munson*, 14 Blatch. 265, Justice Hunt says (*p.* 268):

"No price can be said to be fixed, or royalty established, where the patentee varies his price according to the courage, or the ability to resist, of the infringer, or where there are other circumstances showing the absence of a fixed and established fee. . . . I know of no authority and of no principle on which, under these circumstances, it can be held that damages are established by the existence of a fixed license fee or an established royalty."

The court sustained the master's report, giving nominal damages.

In *Matthews* v. *Spangenburg*, 14 Fed. Rep. 350, Judge Wallace lays down the same doctrine, and confirms the master's report, giving nominal damages.

In *Greenleaf* v. *The Yale Lock M'f'g Co.*, 17 Blatch. 253, the same rule was applied by Judge Blatchford and the master's report, giving damages on the basis of royalties established by settlements made with infringers, overruled.

Before the statute assumed its present form, there were intimations that expense in pursuing an infringer might

be considered in estimating damages. It has been definately settled that this can not be done. See

Day v. *Woodard*, 13 How. 363 (*p.* 371–2).
Teese v. *Huntington*, 23 How. 2 (*p.* 8).
Philp v. *Nock*, 17 Wall. 460.
Park v. *Booth*, 102 U. S. 96.
Walker on Patents, 398.

If the master had respected the law explicitly laid down by the authorities cited, he must have found that the damages to be recovered could not exceed the royalty of twenty dollars per machine, and that if complainant had failed to prove that he, or those authorized under him, were pushing the sale of machines with such diligence as to warrant the presumption that defendants would have purchased a Gottfried machine, and have paid the royalty at the time established, if they had not purchased a Vogt machine, complainant is only entitled to nominal damages; and that, in any event, this royalty would have to be apportioned between the claim of the patent found to be infringed and that not infringed. Failure to provide data showing the amount of royalty, or the profits which complainant was making out of the franchise, does not entitle complainant to speculative damages, but subjects him to nominal damages.

The recovery either of the license-fee for the sale of the article, or of the profit that would have been made by the sale of the article, or of any other measure of the franchise with respect to that particular article, releases the article from the franchise while in the hands as well of subsequent purchasers of it as of the defendant against whom such recovery was had. When the article has once paid this tribute to the franchise it becomes thereby emancipated from all liability under it. See

Sickles v. *Borden*, 3 Blatch., 535 (545), per Nelson, J.
Perrigo v. *Spaulding*, 13 Blatch., per Johnson, J.
Allis v. *Stowell*, 16 Fed. Rep., 783, per Dyer, J.
Steam Stone Cutter Co. v. *Windsor Mfg. Co.*, 17 Blatch., per Wheeler, J.

Booth v. Seevers, 19 Off. Gaz. 1140.

Parks v. *Booth*, 162 U. S. 96, per Bond and Morris, JJ.

Complainant, therefore, can have but one recovery against the machine used by James W. Gaff & Co. and the Crescent Brewing Co., under their successive organizations.

The value of the invention, apart from the specific loss sustained by the patentees by reason of the defendant's interference with their enjoyment of the franchise in the mode adopted by them, never affords any measure of damages. It is only where there have been no sales of the patented article, and no licenses to make or use it, where the patentees have retained the exclusive use of the invention to themselves and are making all the profits lawfully made by it, that the value of the invention can become even an element in estimating the amount of damages sustained. It is then only an element in estimating the damage, not itself the measure of damages. It is then to be considered only just so far as it helps to ascertain what the patentees were, by the trespass of defendants, prevented from making, what, in the mode of enjoying they were actually pursuing, it may be fairly inferred they would have made but for the trespass. It can never prevail against facts inconsistent with the assumption that the patentees would have realized this value but for the particular infringement complained of. Even for this purpose the only value that can be considered is that ascertainable from definite data. There is no license for visionary speculation.

If there had been (as there was not), any circumstance in these cases to warrant the master's inquiry into the value of the invention apart from its value to the patentees in the manner in which they were enjoying it, or endeavoring to enjoy it, at the time, the facts in evidence (such as the trifling cost of pitching by the old method, the rapidity with which it was done, the adherence to it by brewers who were familiar with the machine, and who were free to use it at the mere cost of the machine, the practice of the brewers who had machines with unqualified right to use them to do much of their pitching in the old way, the fact

that the machine never found a market at any price until coupled with superadded patented improvements), all show consistently and clearly that the invention had no value beyond what was measured by the royalty of $20, and render it improbable that it would, in the absence of subsequent improvements, have been able to compete with old modes of pitching. The superheated steam machine, which is preferred by many brewers, to the best modern embodiment of the Gottfried, was during all the period of infringement in general use for the same purpose. The defendants had before used it, and the difference in the purchase price or mere accident was probably the only reason for selecting the Gottfried.

FACTS DISREGARDED AND MISSTATED BY MASTER.

The patent was granted to Gottfried and Holbeck jointly. They put the machine on the market without restriction, advertising them generally, and selling to all who would buy. (*Dep. Gottfried, ans.* 15, *p.* 70.) Gottfried is asked (*p.* 227):

"*X-Q.* 112. About when was the profit on your machine reduced from one hundred to eighty dollars?

"*A.* As much as I remember it was in 1866.

"*X-Q.* 113. About when was it reduced to sixty dollars?

"*A.* The next year after that.

"*X-Q.* 115. At what price was the furnace sold during those years, from the date of the patent to the time when you transferred to the Barrel Pitching Machine Company of Baltimore?

"*A.* The price was first two hundred dollars, then came down gradually to one hundred and fifty dollars. It had reached one hundred and fifty dollars at the time we transferred to the Barrel Pitching Machine Company, of Baltimore.

"*X-Q.* 116. Up to the time you transferred to that company, you sold all the machines that you could find a market for, did you?

"*A.* Yes, sir; we did.

"*X-Q.* 117. From the time that the title came back to you, or to you and Holbeck, who has been selling the ma-

chine under the authority of the patent, you, or Holbeck, or some one else?

"*A.* Holbeck manufactured the machines under the patent, and Stromberg, of Baltimore, manufactured the machines under the patent.

"*X-Q.* 118. Has Holbeck been manufacturing under authority of the patent ever since the title came back to you and him, down to the expiration of the patent?

"*A.* He has been manufacturing machines under the patent up to the expiration of the patent."

Gottfried had already testified relative to the manufacture and sale of the machines by the Barrel Pitching Machine Company from the time of the assignment as follows: (*X-Q.* 58, *p.* 75.)

"*X-Q.* 58. That company made and sold these machines from that time on under authority from you and Mr. Holbeck, did it?

"*A.* I assigned my right to Holbeck, and he assigned to that company, and they made and sold machines.

"*X-Q.* 59. Who has been selling these machines under authority of your patent since February, 1879?

"*A.* Holbeck & Co. have."

This covers the term of the patent. The largest gross profit complainant claims they ever asked, was "about $100 per machine." (*Dep. Gottfried, ans.* 4, *p.* 210.) This was at a time when currency was worth about forty cents on the dollar, when prices of every kind were correspondingly inflated, and when, measured by the currency of the time, manufacturers' profits were generally more than twice what they were a few years after. This profit was reduced by the patentees to eighty dollars in 1866, and sixty dollars in 1867. (*Dep. Gottfried, x-q.* 112, 113, *p.* 227.) Both these reductions were made before they had heard of any infringing machine, and consequently are not in any way attributable to infringement (*Dep. Gottfried, x-q.* 166, *p.* 233.) The reduction did not exceed the general reduction of prices accompanying the depreciation of value in currency. There had been a further reduction to fifty dollars before

the transfer to the Barrel Pitching Machine Company in 1871 (*Dep. Gottfried, ans.* 19.)

After the validity of the patent was settled in litigation, the price was not raised (*Dep. Gottfried, x-q.* 67, *p.* 76). There is nowhere any change in the mode of enjoying the franchise, or in the rate fixed that is in any degree traceable to infringement.

Under date of December 19, 1870, Gottfried conveyed to Holbeck and his assignees his entire right under the patent for a royalty of $10 per machine, reciting that he reserved the right to revoke this assignment if the royalty was not paid (*p.* 5, *assignments*). This royalty was agreed upon between the two parties who were, of all persons in the world, least liable to underestimate the value of the invention, and after they had been selling the machine nearly seven years, and had abundant opportunity to ascertain its value; it was agreed upon with reference to the assignment to a corporation organized at the time to manufacture under this patent and other patents for latter improvements in pitching machines. That company was organized December 29, 1870 (*p.* 32, *assignments*). Gottfried's assignment to Holbeck and his assignees, while dated December 19, 1870, was probably executed the same day. There is the change of but one figure in the date. It was recorded the same day as the assignment from Holbeck to the incorporators of the company (*pp.* 5, 7, *assignments*). Gottfried was a witness to the assignment to the company (*p.* 8, *assignments*). Gottfried testified that "this company agreed to pay me $10 per machine." (*Ans.* 19, *p.* 215.)

The only claim which Gottfried can assert to any damages beyond a loss of $10 royalty reserved on his half interest, is that which he asserts in his capacity of assignee to Holbeck and Barrel Pitching Machine Company and other intermediate assignees, and this $10 was the royalty for the half interest which they had concurred in as a permanent measure of the value of that interest when conveyed to strangers. At the time of making these transfers it is evident that any interference from infringers was not thought of, for no provision is made in the conveyance for the ex-

pense of litigation, or division of the proceeds, or any of the contingencies usually provided for when a license is granted to a manufacturer under a patent which is threatened with infringement.

It was while these conditions remained without any effort to disturb them, while Gottfried could not in any event realize more than the $10 per machine, and while nobody claiming under the patent had ever been in the way of obtaining or asking for other profit from it than that which was to be obtained by its sale, that the defendants bought and put into use their machine, which was made under a later patent, and thus committed the breach which the master found damnified the complainant to about $10,000.

Before this Pitching Machine Company had been many months in operation, its officers got into a quarrel among themselves, resulting in a lawsuit between two of them, and the selling out of the stock of the defendant at sheriff's sale (*pp.* ~~22–30~~, *assignments*). This quarrel, and general business incompetency, and refusal to pay their debts, seemed to have unfitted that company for prospering largely in any business, and Gottfried became dissatisfied, not with the amount of royalty reserved, but because that royalty ~~back~~ was not paid over to him. March 25, 1875, Gottfried executed, and afterward filed in the Patent Office, a paper reciting that his grant having been made "in consideration of a royalty to be paid to him of $10 per machine for every machine manufactured by said Holbeck, and any associates he may have, but Holbeck and his associates having manufactured sundry of such machines, and neglected to pay royalty thereon, etc.," and stating that he thereby revokes the grant. This paper does not appear to have been ever served upon any parties in interest, and it is hardly supposable that the filing of such a paper in the Patent Office could operate as a revocation of the Gottfried share of the title. If it had, it would still have left the Pitching Machine Company vested with Holbeck's half interest, which would have given it full authority to continue the manufacture and sale of the machines indefinitely.

Clum v. *Brewer*, 2 Curtis, 507, per Curtis, J.
Durham v. *I. & St. L. R. R.*, 7 Bis. 223, per Drummond, J.

It certainly could not have increased complainant's damage by reason of the breach already committed. So far as the effort at revocation had any bearing on the fairness of the royalty, it is to be noted it was only because of failure to pay the royalty that it purported to be made.

In 1875, the Barrel Pitching Machine Company assigned its interest to its incorporators, including Holbeck and Comynges (*p.* ~~19~~ 52, *assignments*). The same year Holbeck assigned half his interest to Stromberg, and went into partnership with him for the manufacture of the machines (*p.* ~~11~~ 47, *assignments*). In 1875, Comynges assigned his interest to Stromberg (*p.* ~~14~~ 107, *assignments*), who, as well as Holbeck, continued to manufacture and sell the machine under the authority of the patent.

In October, 1876, Gottfried executed a power of attorney, reciting that Stromberg, Holbeck, and himself, were jointly interested in the patent (*p.* ~~14~~ 107, *assignments*). In February, 1879, Smith and Comynges, two of the stockholders in the Barrel Pitching Machine Co., re-assigned to Holbeck their interest in the patent (*pp.* ~~12~~ 53 *and* ~~16~~ 56, *assignments*). In May, 1879, Holbeck assigned his interest in recoveries and back royalties to Gottfried, and reserved the exclusive right to manufacture and sell machines, at a royalty of ten per cent on their selling price, which right he enjoyed to the expiration of the patent, except that Stromberg also was selling under the patent, down to 1880. The royalty of ten per cent was released after 1879, and, from that time, Holbeck enjoyed the right to manufacture and sell without royalty, and Gottfried, who had parted with the right to manufacture and sell machines without reserving any tribute thereon, could not have been damaged by any infringement, as it made no difference whatever to him whether the machines were purchased of Holbeck or of

strangers, and he represents no privity with Holbeck subsequently to that time.

January 24, 1880, Stromberg assigned his interest to Gottfried, reserving the right to sell twenty additional machines. The patent expired May 3, 1881. There was no time, from its issue to its expiration, when Gottfried held unqualified interest in it, or when the manufacture was not carried on under it by those, as assignees of whom he now sues, and with his personal concurrence and procurement. The share of the profit made on the selling price of the machine, prior to 1871, and the royalty of ten dollars per machine, and the ten per cent on the selling price, from May to December, 1879, are the only revenue the complainant was ever in the way of receiving, or ever asked, for the lawful use of the invention during any part of the term of the patent. His claim to damages, beyond this royalty of ten dollars on the half interest, he can only make as assignee of Holbeck, the Barrel Pitching Machine Co., and Stromberg, and subject to all limitations that would have applied to them, and under the same burden of proof. If he can recover in his own name damages sustained by them (which is doubtful), he certainly can not recover more than they could have recovered if in their proper persons before the court as complainants. If he has failed to show definitely the measure of their damage from this particular infringement, he can not have any recovery therefor. They seem to have regarded and treated the royalty of ten dollars for the half interest as excessive; and it was so, as compared with royalties ordinarily exacted, as illustrated by cases heretofore cited. As against both them and him, the allowance of the same royalty on their half interest as that mutually fixed between them on his half interest, is the most favorable measure of recovery to which they could lay any reasonable claim. It is the only measure of their damages for the computation of which complainant has furnished any data.

The master's report, besides containing many misstatements of fact, contains many more calculated to convey a false impression. He states that the patentees' "ef-

forts to introduce the invention failed, and they never succeeded in building up a manufacturing business," that the arrangement for royalty of ten dollars per machine, was a "personal arrangement" between the patentees, and "little, if any thing, ever done under it," and that the title became reinvested in the patentees in 1875 and 1876.

The evidence of complainant shows conclusively, and without any contradiction, that the patentees continued from the issue of the patent to its expiration, either in person or through their authorized licensees, the manufacture and sale of the machines without restriction; that the arrangement for royalty, instead of being a "personal arrangement" between the patentees, was a grant to "*Holbeck and his assignees*," made at the time of the organization of a *stock company*, with a view to that company operating under it; that Gottfried witnessed the assignment to that company, and speaks of the agreement for that royalty as *between him and that company*; that it was made subject to penalty of forfeiture for want of payment; that this penalty was sought to be enforced when the royalty failed to be paid; *that this license continued in force in behalf of this corporation, with Gottfried's acquiescence, for more than five years, during which time that company continued to enjoy the unrestricted right to sell machines, and to sell them generally*; that the only ground on which Gottfried then undertook to recall the license was the failure of this company to pay the royalty that had accrued; that Holbeck and Stromberg continued thereafter (one of them through the term of the patent, and the other practically so) authorized to make and sell generally; that the title did not return to the patentees until January 24, 1880, and never for a moment was so vested in complainant as to give him right to exclude others from manufacturing the machine, and putting it into use, as extensively as they wished.

The inferences the master draws from these misstatements are equally unwarranted. If the facts were as he represents, they would not, as he assumes, entitle the complainant to damages larger than the royalty at which the sale of the machines to all who would purchase was au-

thorized, or than the profits per machine which the patentees would have made at their own rates, but would only tend to show that the machine could not find a market at that rate, and that the complainant had not therefore been damaged to that extent. It would be a ground for defendants to dispute the royalty as excessive, or to insist that only nominal damages could be recovered. It is the defendant, not the complainant, who can attack a royalty established by the complainant on the ground that it has not been sufficiently acquiesced in. (*Walker on Patents*, *p.* 389, *sec.* 557.) As against complainant, it is enough that it is all he had fixed as the measure of his profit on the general sale of the invention, and all he would have got if it had been acquiesced in. If the agreement about royalty had been personal, the two parties were on an equal footing, and there is as much reason for supposing Holbeck allowed Gottfried more than he would a stranger as that Gottfried accepted less from Holbeck. It was a business transaction in which they undertook to fairly apportion the franchise for the entire remaining term of the patent in dealing with a corporation organized to manufacture the machine, and thus concurred in estimating the $10 per machine as fairly measuring the half interest of Gottfried. This estimate is excessive as compared with ordinary rates of royalties, as illustrated by the cases before the courts where damages have been awarded on the basis of royalties. It is larger than any royalty paid under sewing machine, reaper, or grain-binder patents. Even if the consideration had been all *affection*, as there is not the slightest reason for supposing, the loss of this royalty would still be all the damages Gottfried suffered by the infringement, as it was all the profit that he could possibly get out of the lawful putting into use of the machine. The patentees were the last men to underestimate the value of the patent.

If complainant had failed to build up a manufacturing business between 1864 and 1875, the subsequent putting into use of one machine by these defendants certainly was not the cause of that prior failure, and does not entitle

complainant to recover of them therefor. It was more than ten years before the effort was made that their trespass occurred. Then it was not by competition in the market, but by substituting in their brewery for a pitching machine which did not infringe, and upon which complainant could in no event have got any tribute, one machine which the court has held to infringe. It does not appear that the patentees were prevented from building up a business by any infringement. For the first four years they never heard of an infringement, and after that do not appear to have been interfered with in any sale by infringers, or to have notified any body that they were infringing until the patent was more than thirteen years old.

If they were being interfered with by the manufacture of competing machines, they had a very simple remedy in applying for an injunction against such manufactures. It was their duty at least to give notice to the public, who were purchasing machines made under later patents, that they claimed that they were infringements of their patent. They do not appear to have done even this. They never have commenced suits against any manufacturers of or dealers in infringing machines (*Dep. Gottfried, x-q.* 167, *p.* 233). Patentees who lay idly by and see infringing machines made and sold, and allow the public year after year to buy them and put them into use without any suspicion of adverse claim against them, do not thereby acquire such special equities in their favor as to justify the straining of the law to give them, as actual damages against the user of a single machine, a thousand fold what they would have received if he had bought their own machines on their own terms.

The master states that "the brewers meanwhile regarded the patent as invalid, and engaged extensively in making and using infringing machines," and that over three thousand were put into use during the first twelve or thirteen years. There is no evidence that a half-dozen infringing machines had been made or used prior to making this license, or a dozen within the thirteen years, or that

brewers or others were aware that any of these machines were claimed as infringements of complainant's patent. If such had been the fact, it would not increase complainant's damages beyond the loss of the royalty which he would have received if there had been no infringement.

The master's reiterated statement that over three thousand machines were put into use in the first twelve or thirteen years of the patent, represents the imagination of Gottfried supplemented by that of the master.

Gottfried, who is the only witness referring to the subject, stated in the loose generalization of his direct examination, that the machine had been put into use "in about three thousand breweries." On cross-examination, in the presence of this master, he admits that he has no personal knowledge of its use in more than from two hunhundred to two hundred and fifty breweries.

Both these statements refer to all uses down to the time when Gottfried testified, two years after the expiration of the patent, not to the first twelve or thirteen years, as represented by the master.

The royalty fixed in 1871 was not a royalty to continue in force only while the validity of the patent was in dispute, and does not appear to have been affected by any expectation of controversy over it. It was fixed for the remainder of the term of the patent, not as a temporary expedient.

In all cases where a royalty is held to be a measure of recovery, it is necessarily a royalty fixed before the rights of the patentee had been finally established and acquiesced in, for the cases themselves in which that measure is adopted, are contests over those rights.

The master says that the sale of Holbeck's interest to Gottfried, in 1879, was also a "personal arrangement," and attributes the smallness of the royalty reserved to affection. There is no warrant anywhere for this assumption. The documents in evidence show these patentees dealing with each other, as two sharpers might deal with one another. The royalty reserved was a large one, as compared with those where royalties have been adopted as a measure of

recovery, and seems to have been larger than Holbeck found he could afford to pay. It purported in terms to be the consideration for the right to continue the sale, and was, in fact, so; the $10,000 being paid for the exclusive right to all the damages for infringement during the term of the patent. This $10,000 the master awards as damages for one out of the three thousand machines which he represents to be liable to account under the patent. As the same rate, the damages for these three thousand machines would be ($30,000,000) thirty million dollars.

The master says that, after the Judge Dyer's decision, Gottfried granted licenses at uniform rates of fifteen cents a keg, etc.; and, further on, states that he names thirteen of these licenses, and says there are more.

These statements are directly contrary to fact. The evidence shows definitely that no license of any kind was ever granted except as a settlement for past infringement. Gottfried names but six so-called licenses, in which he pretends that this right of royalty on either keg or cask was considered by him any estimate of the amount of settlements, and admits expressly upon cross-examination that these six are all the contracts made for license fees to be paid after the date of the contract; that they all included settlements for past infringement; that, in every instance but one, suit was actually pending and settled by the contract; that, of these six, one was never acted upon; that, of the remainder, four were paid by the licenses upon estimate claimed to have been made by him in advance, instead of at stated periods during the remainder of the term of the patent, as provided in them; that upon one of them only, a report was made subsequent to the settlement, which report showed no kegs pitched, and only twenty-two casks, and that all these settlements were made through the intervention of complainant's attorneys.

They were all made for sums less than the expense of litigation. Gottfried, in cross-examination before this master, testifies as follows (*p.* 225, *ans.* 101):

"*X-Q.* 101. Can you name any party who put a pitch-

machine into his brewery for the first time, upon an agreement to pay you royalty for the use of the machine?

"*A.* No, sir; I can not.

"*X-Q.* 102. Then, in all the cases where you made settlements upon the basis of royalty estimated by you, the parties with whom you settled had machines already in use, had they not?

"*A.* Yes; they had.

"*X-Q.* 103. And they made the settlements to obtain a release for the past use, and to get a general release for the remainder of the term of the patent?

"*A.* That is the fact. There are some exceptions, however; some did not take a release for the future, and some did not need any. Settlements had been made before that patent had expired, and some did not take any release, from the fact that they did not need any, because they had bought the machine from Holbeck."

Also:

"*X-Q.* 110. These contracts just offered in evidence represent all the contracts for license fees to be paid after the date of the contract that you made, do they?

"*A.* Yes; they are all that kind of contracts."

The only one of the six Gottfried can name as having continued to report under this so-called license is Philip Sheuermann, who, he says, made one report of 22 casks pitched (*x-q.* 106, 107, *p.* 227). On re-direct examination complainant tries to make it appear that a report was made by Jung and Borchert (*x-q.* 181, *p.* 235), but it appears that they made but one payment, which was for a lump sum for past and future (*Dep. Gottfried, ans.* 4, *p.* 210). The first settlement that Gottfried claims to have made with anybody upon any estimate on royalty, was that with Jung and Borchert, in April, 1880, less than a year before the expiration of the patent, and more than five years after the defendants' infringement (*Dep. Gottfried, x-q.* 99, *p.* 225). Gottfried also testified (*p.* 224) as follows:

"*X-Q.* 84. Then your attorneys took part in the negotiations for settlement in all the cases, did they?

"*A.* Yes, sir; they did."

These six settlements of litigation, all made for amounts trivial as compared with the cost of litigation impending, and on none of which were royalties of fifteen cents a keg actually reported and paid, even for the fraction of the year which the patent had then to run, afford the only basis on which the master finds that there was a royalty under the patent, measuring the damage sustained by the complainant many years before such settlements were proposed. The course of business pursued during the entire term of the patent, the rate of royalty fixed by the patentees as the basis of business transactions for the entire term of the patent, the amount of profit which they, for many years, were realizing in the course of business, the conclusive evidence as to the limits of the actual loss sustained by complainant, are all discarded for this fictitious royalty. The more than four years the patentees carried on their business generally, without hearing of the infringers, was too short to have any significance. The master admits Gottfried to have acquiesced in the royalty of ten dollars per machine for over five years, and it was made expressly for the entire term of the patent, but the period for which it was made, or for which it was acquiesced in, is treated as too short to have any significance. The sale of twenty machines, which the master admits to have been sold in the ordinary course of business, is too trivial to be considered. But these settlements for six machines, all made within a few months, under compulsion, and not actually carried out according to their terms (except one in which no report of kegs was made, and only twenty-two casks reported), are so conclusive evidence of actual damage suffered by infringements years prior to the time they were asked for, that the master does not hesitate to make them retroactive, and to award on the strength of them a judgment for the use of one machine many fold the aggregate obtained in these six settlements.

It is no uncommon expedient for persons who are suing under a patent to undertake, while the litigation is pending, to "establish a royalty," by arranging so-called licenses with strangers upon terms which, applied to these

strangers, will be petty, but afford a convenient multiplier when used against others, and to offer all sorts of ulterior considerations in order to effect such licenses; but it has not hitherto been understood that license so effected, pending litigation and as settlement of past infringements, could serve any purpose beyond that of intimidating others into settlements.

The master says that he is not inclined to assume that the infringers paid more than they believed they were liable for, and that no evidence has been introduced to show that the amounts were paid under collusion. If this was so, it would not afford a basis for judgment against these defendants, much less one many fold the aggregate of these settlements.

Whether the parties believed they were liable or not has nothing to do with fixing the measure of complainants' damages. The defendants are not called upon to investigate the motives that enter into such settlements. But the evidence does show plainly that the settlements were made for more than the complainant was entitled to, though for less than the expenses of litigation to the defendants, if they had been successful, would have amounted to.

If such a basis of recovery were adopted, it would oblige the investigation of this evidence to extend to an inquiry into all the inducements brought to bear, whether persuasion or intimidation, all frauds practiced, all the collusive arrangements, and of every thing of this character, in all the litigation and transactions amongst strangers affecting such settlements. It would practically oust the jurisdiction of masters and juries and courts in determining the measure of recovery, and substitute for them strangers before whom the party could not be heard, who were not under oath, and who were swayed by influences of the most doubtful or reprehensible character. The cross-examination of Gottfried, and the admissions made in connection with that cross-examination, exhibit, in part at least, the methods by which such settlements are procured. (See *dep. Gottfried, x-q. p.* 234, *ans.* 178, *et seq., extract from Volksblatt,*

and letter to Wood & Boyd, stipulation at end of record). Defendants are shown fictitious or collusive decrees, told that they are judgments of courts which are controlling as against them, and in terms such that if inflicted upon them might be ruinous; they are threatened with ruin of financial standing, with injunctions and with penalties. If they take counsel, insidious approaches are made by which the advice of their counsel is represented to them to be misleading or corrupt; secret emissaries are employed, pretending to be their friends, known, perhaps, to have special influence with them; they approach them with apparently friendly advice and warning; they assume to be acting as solicitous for their interest, when secretly in the pay of their opponent; if there are several defendants having a common interest, one out of the number is offered inducement to obtain a settlement from the rest, and appearing as a counselor with his associates, uses his influence as if speaking for the common good in obtaining the passing of resolutions that shall effect a settlement out of which he will receive a compensation; defendants are even given to understand that the amount of judgment against them is already determined by the court, with a suggestion that a discount may be had for cash payment; newspapers are employed to publish what, by the reader, are taken to be editorial articles, charging with incompetence or corruption any counsel who may advise them against such extortionate settlements, and publishing and alluding to as the judgment of courts what are consent decrees.

Thus, in cases where there is the most conclusive defense, or where a recovery could not be more than nominal, parties shrinking from litigation are sometimes bled to the amount of many thousands of dollars. This is especially so where the attack is made upon users, rather than manufacturers, of machines.

It would be bad enough to contend for such a measure of recovery against infringements occurring after the complainant had effected such settlements, and so, as complainant claims, established this basis; but when the proposition goes further, and insists upon it as a measure of recovery to

reach back five years prior to the time when the first settlement of the character was made, it assumes that, though the measure of recovery against defendants purchasing a machine in 1875, ~~which~~ if suit had been brought within five years, could not have been more than the few dollars which constituted the license fee upon the machine, it was within the power of the complainant to make arrangement with strangers in 1880, which magnified many hundred fold the amount of damage inflicted upon him by purchasing a machine five years before; that a patentee who, himself, assuming the burden of introducing his invention to the public, finding a market for it, and taking all the risks, labor and expense incident to it, would make at most a profit of five or ten dollars on a machine, can instead lie idle during the term of his patent, allow others to create and fill the market for it, and thus its use to become perhaps much more extensive than it would have become as made and sold by him, and then at the expiration of his patent, by some arrangement between him and strangers, procured perhaps by the most questionable means, create a measure of value for his franchise a hundred or a thousand fold what he could ever have realized by introducing the article, and levy tribute to that amount upon all who used it in ignorance of his asserting any claim of right.

It does not appear that in any case in which the master's reports offered in evidence were made, any evidence was taken or appearance made in behalf of defendants, or that the masters had before them any evidence, other than the sweeping statements made by Gottfried in direct examination. It does appear that in none of them there were any exceptions taken to such report. This, taken in connection with the fact that the amount reported was many times what complainant made, or ever undertook to make, in the lawful introduction of the invention, is strong evidence of collusion, and is conclusive evidence that something besides the actual damages due complainant was considered in the settlement. Defendants could not, if they would, in this case, prosecute an investigation into the secret history of these settlements, and the ulterior inducements by which

they were procured, and the costs of such investigations, if defendant were compelled to make them, would be enormous.

The master states that he finds that in some of the cases before Mr. Bishop, the facts relied on by the defendants were before the master.

If he means any thing more than the general statements made by Gottfried in his direct examination, defendants deny it, and insist that the statement is unfounded in fact, and that the master is utterly unwarranted in making it without having proof of it in evidence and giving them an opportunity to meet it. The statement is substantially consistent with the master's recital of the evidence before him, which ignores every thing but Gottfried's fictitious generalizations in his direct examination.

The statement that Judge Treat has confirmed complainant's position is erroneous. After defendants had objected on the record to the so-called decrees from other courts, and called attention to the fact that there were no exceptions upon which the court could possibly have reviewed the master's report, complainant's attorneys went to Springfield and arranged for exceptions in a case practically closed a year before. These exceptions were produced at the argument before the master, so as to exclude defendants from opportunity to investigate the circumstances. They failed to show that any of the evidence here presented, or any of the questions of fact or of law, were before either the master or the court. There was no opinion of the court, as presumably there would have been if the court were actually making a decision so inconsistent with authority and so extraordinary. As depriving the entry in that case of all weight as authority, defendants now produce a certified copy of all the evidence taken therein, which shows that there was no evidence taken in behalf of defendants, no cross-examination of Gottfried or his expert, Graham, and no appearance for defendants at the examination of either of these witnesses. None of the facts appearing from the cross-examination of Gottfried or his wit-

nesses here, or from defendants' evidence were before the master.

It was, throughout, like all the other cases, a sham fight, for use elsewhere. The probability is that the filing of these exceptions was by the procurement of complainant, if they were not actually drawn or dictated by those representing him. This fairly illustrates the unreliability of master's reports in other cases as authority here.

The only cases in which the same evidence as that before this master was exhibited, were the Cincinnati cases, in which the profit on the sale of the machine was held, both by the master and the court, the measure of actual damages.

In his representations as to the value of the invention the master equally misrepresents the facts. If the question of the theoretical value of the invention had been the one before the master, he could only consider it upon definite evidence showing exactly what the saving was. If, as he intimates, there was a saving in time, the amount of that saving, the cost of the labor which was avoided, and the discount to be allowed on the cost of running the machine, should have been definitely proved and made the basis of his calculations. The same is true if it were a saving in kegs or a saving in pitching. Even then it is not presumable that any person would pay this amount for the right to use the machine; the amount of saving effected is not the basis of commercial transations.

No one of the witnesses in behalf of complainant undertook to furnish any definite data of this kind, though it would be easily procurable if the facts were in their favor. Their cross-examination shows none of them to possess such data. The defendants have shown affirmatively, by demonstration and by uncontradicted evidence, that the speculations of complainant's witnesses are most extravagantly absurd and unfounded, and that there is no appreciable saving in any respect. The facts fully proved in evidence that it has been throughout a debateable question among brewers whether it was profitable to use the machine, upon any terms; that some of the largest brewers in-

sist to this day that it is not, and refuse to use it when its use has always been open to them at a cost not exceeding the price of a machine, that those who have it scarcely ever use it for pitching their casks (though complainant's witnesses placed the saving as high as seven dollars a cask), while some use it for pitching casks, but do not use it for pitching kegs; that during more than half the term of the patent the large brewers in Cincinnati, as well as the defendant brewers here, and presumably other brewers throughout the country, continued to do all their pitching by hand, and only abandoned it as improved machines were brought to their door at small cost; that the pitching by hand is always done by workmen employed about the brewery in what would otherwise be leisure time and at no appreciable cost to the brewery; and the difficulty Gottfried and Holbeck had in making sales when there was no competition; all are convincing evidence that the invention possesses no such value as to secure its adoption upon any terms more costly than the purchase of a machine at a moderate price. Gottfried himself did not use the machine on kegs for the first few years (*dep. Gottfried, a.* 4 *and* 5, *p.* 69). Schuerman, the witness, who made the report to Gottfried of twenty-two casks pitched, did not use his machine on kegs (*dep. Gottfried, a.* 4, *p.* 204). Seib pitched his kegs by hand during all the time he had the first Gottfried machine (*dep. Schuerle, a.* 66, *pp.* 204, *and a.* 74, *p.* 266; *Uhlman, a.* 40, *p.* 273. Indeed, it seems to have been subsequent inventions that enabled the machine to be used to advantage in pitching the kegs. Gottfried's patent shows it adapted to casks only. These defendants, on the other hand, and substantially all the Cincinnati brewers who have pitching machines, do not use it in pitching casks.

The master has misrepresented both the process of pitching by machine and by hand, subtracting from one and adding to the other.

The process of pitching by machine is as follows: One man places the keg upon a rack, another thrusts a gas-jet into the keg, while a third inspects the interior

of the keg and removes any bits of cork, splinters of staves or other foreign substances, by means of a slender-pointed rod of iron. Then the keg is washed, placed on skids, with the bung-hole down, dried and the hoops tightened. The keg is then placed upon a stand so that the hot air-pipe of the machine goes into the bung-hole. When sufficiently heated, the keg is removed, hot pitch poured into it from a ladle by means of a funnel, the bung replaced, the keg rolled a little, the bung removed, the pitch poured out, and then the keg rolled. Some put the pitch in before heating the keg.

See Dep.—

Frech, ans. 21, 30, 31, pp. 230, 231.
Schwartz, ans. 6, p. 345.
Windisch, ans. 6, p. 350.
Hauck, ans. 36, 40, 77, 90, 94, pp. 354–358.
Gerst, ans. 13, 21, pp. 361, 362.

The old process of pitching was as follows: One head of each keg was taken out and the hoops loosely replaced to keep the staves in place, and the kegs placed in a row, slantwise, upon a rack, with the open end up. One man dips a large ladle of hot pitch from the kettle and hastily pours a little into each keg upon the rack, then takes from the furnace an iron, one end of which is heated to a red heat, and thrusts the hot end into each of the kegs, thereby setting the pitch on fire. A pin is put into the spigot-hole of the head, and, after the pitch has blazed for a moment, the head is placed over the open end, melting the old pitch upon the head and at the same time putting out the flame. The loose hoops are then knocked off, the head put in, the hoops tightened, the surplus pitch allowed to run out into another vessel, and the kegs then placed upon the roller.

See Dep.—

Frech, x-ans. 21, 23, p. 382.
Brenner, ans. 19, p. 985.
Meier, ans. 11, 12, p. 307.

The inspection of kegs and removal of refuse matter alone occupies more time than the taking apart of the

kegs where the pitching is done by hand. (*Dep. Frech, ans.* 23, 25, *pp.* 330, 331.)

Pitching by machine is not thorough, and careful brewers having the machine make it a rule to pitch all kegs by hand once in two years, or thereabouts. (*Dep. Gerst, ans.* 12, *p.* 361.)

Seven men, or six men with a machine for rolling, can pitch by hand, upon an average, not less than from 60 to 80 kegs an hour.

See Dep.—

Frech, ans, 14, 17, p. 330.
Gerst, ans. 24, p. 362.
Liebel, ans. 18, p. 368.
Scharf, ans. 5, p. 375.
Brenner, ans. 14, p. 384.
Windisch, ans. 2, p. 394.
Hauck, ans. 12, page 352.
Moerlein, E. Schmidt, Boss, H. Schmidt, Mulhauser, and Herancourt.

At the Windisch, Mulhauser Brewery, in the presence of the master in the Cincinnati cases, who took all the evidence in these, 51 kegs were pitched by hand in twenty-four minutes by men who had not pitched by hand for years, two of them being coopers and the others ordinary workmen at the brewery.

See Dep.—

Frech, ans. 17, 20, p. 330.
Windisch, ans. 2, 3, pp. 349–351.
Liebel, ans. 19, 22, p. 368.
Scharf, ans. 5, 6, pp. 373, 374.

This would be over a thousand kegs in a day of ten hours. Allowing two dollars a day for the labor, the gross cost would be fourteen dollars, less than a cent and a half a keg. Complainant's witnesses place the number of kegs which the same number of men would pitch in a day with the machine at eight hundred—there is, besides the cost of the machine, the fan, the engine, and a man to run the engine. The royalty of the master assumes the defendants would have paid for the privilege of pitching that thousand

kegs, by the latter rather than the former method, is one hundred and fifty dollars, more than twelve times the cost of pitching by hand, while it is evident that the expense of the work must have been at least as great. And the master further assumes that defendants would have voluntarily paid this royalty when complainant was authorizing the sale of machines generally, with unrestricted right of use, at a royalty not exceeding twenty dollars per machine, and when the superheated steam machine, which did at least as rapid work as the Gottfried, was on sale in the same market.

The defendants continued to pitch both kegs and casks by hand, or by machines not covered by the patent, during most of the term of the patent. Many brewers still prefer to pitch by hand, and do so. Most of those who have the machine prefer to use, and do invariably use, the old pitching pan for pitching their casks, though complainant contends that the saving would be seven dollars a cask for each pitching. Others, who use the machine for pitching casks, prefer to pitch their kegs by hand, and do so altogether. When they do adopt machines, it is not the Gottfried machine, as shown in the patent, but the Vogt or Stromberg, or other improved machine, made under more recent patents, and operated with a Roots blower, also covered by a later patent, all whose patentees may claim royalty, and, measuring their invention by an imagination as much in excess of the ingenuity which it exhibits as has Gottfried, insist that their damage, too, is more than the entire profit of the breweries in which they are used.

About twenty-four million dollars a year is the tribute which Gottfried would claim from the breweries of the country, or four hundred millions for the term of seventeen years, upon the master's basis, according to the figures he gave in cross-examination. Upon redirect examination, his counsel reduced it for him to six hundred thousand dollars a year, or about ten millions for the term of seventeen years. When all the patents that may be asserted against implements and processes used in the pitching of kegs and casks alone are heard from, the aggregate recovery, at cor-

responding rates, may exceed many fold the profits of all the breweries of the country.

Complainant's witnesses, instead of being, as the master represents, mainly impartial witnesses, are nine of them from Seip's brewery, where Gottfried used to be foreman, and four, besides Gottfried, from his own. None of them have any means of knowing, or any data for estimating, the duration of kegs pitched by either process, or the amount of pitch required, and the cross-examination shows that the most of them alternated between pitching by machine and by hand after they were familiar with the machine.

See Dep.—

Seib, ans. 44, 45, p. 260.
Schuerle, ans. 89,96, p. 267.
Uhleman, ans. 64, 65, 66, p. 274.
Welke, ans. 66, p. 289.
Stupp, ans. 56, 57, 58, pp. 294, 295.
Roessler, ans. 35, 36, 37, p. 299.
Olinger, ans. 67, 69, p. 303.
Meier, ans. 48, 49, 50, 51, p. 310.
Thienger, ans. 42, 43, 44, p. 313.
Steiner, ans. 66, 69, pp. 317, 318.
Loeffel, ans. 37, 38, 39, p. 320.
Walther, ans. 65, 66, 67, p. 324.
Thorman, ans. 73, 78, pp. 281, 282.

Koehle is not questioned upon this point. Thorman is the only witness who pretends to know any thing about the number of kegs purchased from year to year by the brewery for which he works; is cooper at Seib's brewery. He testifies that Seib's brewery had in July, 1883, from 8,000 to 10,000 kegs, barrels, and half-barrels, and that they purchased about 7,000 kegs in 1882, and from 3,000 to 4,000 in the first six months of 1883. (See *Dep. Thorman. ans.* 6, 82, 84, *pp.* 276–282.)

These figures are the only data furnished upon which the duration of machine pitched kegs can be estimated. Assuming them to be correct, it will be seen that the whole stock of kegs was renewed once in eighteen months.

The witness, Thorman, also testifies that Seib's brewery produces about 140,000 barrels of beer per annum. Q. 5. Gottfried, the complainant, testifies that in general about 100 kegs are required for every 1,000 barrels of beer sold, or 10,000 for each 100,000 barrels sold. (*Dep. Gottfried, ans.* 154, 184, 185, *pp.* 231-235.)

Assuming his estimate to be correct, and that Seib's brewery owned 14,000 kegs, the number required by this estimate, instead of 8,000 to 10,000, as stated by Thorman, it would appear that the entire stock of kegs had to be renewed once in two years; or, in other words that the average duration of machine pitched kegs is two years.

No witness on either side estimates the duration of hand pitched kegs at less than four years, and nearly all upon both sides place it at from five to eight years.

Defendants' witnesses say they last longer when pitched by hand, and give their reasons.

Eight witnesses are examined by complainant as to the amount of pitch required to pitch a thirty-barrel cask by hand and by machine. Of the eight, three state the amount required for pitching by hand at figures ranging from 1½ to 4 gallons, while four state the amount required in pitching by machine as four (4) gallons or more.

See dep.—

Meier, ans. 18, p. 307.
Steiner, ans. 18, 19, p. 315.
Stupp, ans. 16, p. 291.
Uhleman, ans. 23, p. 271.
Thorman, ans. 15, p. 277.
Welke, ans. 14, p. 287.
Koehl, ans. 15, p. 305.

These witnesses vary in their estimate of the amount of pitch required for a thirty-barrel cask pitched by machine from one-half gallon (Meier) to five gallons (Uhleman).

Defendants' evidence shows that more pitch is required in pitching by machine, and gives the reason.

See dep.—

Frech, ans. 7, 95, pp. 329-337.
Gerst. ans. 7, p. 360.

Scharf, ans. 12, 14, 21, pp. 374-376.
Brenner, ans. 9, 26; x-ans. 9, 61, 74, 76, pp. 384-390.

Also that the kegs require pitching more frequently when pitched by machine.

See dep.—

Frech, x-ans. 78, 79, 80, 81, pp. 336-337.
Hauck, ans. 5, 7; x-ans. 25, 27, pp. 352-353.
Gerst, ans. 7, p. 360.
Brenner, ans. 11, 13; x-ans. 42, 43, 61, pp. 384-389.

Complainant's evidence shows that the pitching was generally done by the hands formerly employed about the brewery, and that the same men who ordinarily pitched by hand now pitch by machine, often at increased wages.

See dep.—

Schuerle, ans. 125, 127, 133-135, 137, pp. 269, 270.
Uhleman, ans. 56, 58, 63, p. 274.
Thorman, ans. 29, 39, 72, pp. 278-281.
Welke, ans. 20-23, 27, 28, 51-65, pp. 287-289.
Stupp, ans. 49-50, p. 294.
Olinger, ans. 44, 45, 49, 56, 57, 61, 63, pp. 302-303.
Koehle, ans. 23, 24, 27-29, p. 306.
Meier, ans. 46, p. 309.
Thienger, ans. 35, 41, 58, pp. 312-314.
Steiner, ans. 44-51, 62, 65, pp. 316-317.
Loeffel, ans. 27, 31, 32, 36, pp. 319-320.
Moerlein, ans. 6-8, p. 179.

George Stupp, foreman in Deal's brewery from 1869 to 1872, testifies that they had a machine for pitching large casks, but pitched the kegs by hand; that the pitching by hand was done by the men employed regularly in the brewery, and of these "there was only one man that was a regular brewer besides me. The others worked in the summer on a farm, and in the winter they came in and worked in the brewery. I had one regular good man besides me." (*Dep. Stupp, ans.* 45-59, *p.* 294.)

Anton Schuerle testifies that he was employed at Keeler's brewery pitching hogsheads and putting them in the cellar; that he had thirty-three and afterward thirty-five dollars per month; that the other laborers had from

twenty-four to thirty dollars a month; that he alone had extra pay; that the other five who helped pitch got only the wages of ordinary workmen, and that they had to board themselves. (*Dep. Schuerle, ans.* 125–127, 133–137, *pp.* 269–270.)

Machine pitching requires the use of an iron bung bush, which is not required when the pitching is done by hand.

See Dep.—

Frech, ans. 5–12, 19, pp. 329–330.
Hauck, ans. 47, 48, p. 355.
Gerst, ans. 15, x-ans. 69, 70, pp. 361–365.
Scharf, ans. 18, x-ans. 66, pp. 375–380.

Hand pitching not only may be, but commonly is, carried on under cover.

Dep. Hauck, ans. 9, 10, p. 352.
Gerst, ans. 10, p. 360.
Scharf, ans. 10, 63, pp. 374–380.
Brenner, ans. 27, p. 386.
Frech, ans. 26, 27, x-ans. 89–93, pp. 327–337.

Nine of complainant's witnesses to the value of the invention were from Seib's brewery, where Gottfried had been foreman. It came out on cross-examination that the machine that they were using there was not one falling within complainant's patent, but was made on substantially the plan of the Davidson & Symington patent of 1843, which complainant's expert in the original case had pronounced worthless, and that Gottfried's machine had been abandoned for it. (*Dep. Seib, ans.* 33–40, *pp.* 259–260.)

This is the same machine defendants were using before they bought their infringing machine. The same machine is generally used in the St. Louis breweries.

Dep. Gottfried, ans. 177, p. 234.
Dep. Schloistein, p. 134.

This shows the master's statement that complainant's was the only way devised for pitching kegs without taking out the heads, is unfounded. There was nothing new in the process. The only novelty claimed was in the machine used for heating the inside, and other machines, beside the

coil apparatus, adapted to this purpose, were shown in evidence as long antedating the patent.

The master says that upon the basis contended for by defendants, the recovery would be little more than nominal. If he means that the recovery for the use of one machine would not be as much as the aggregate judgment would have been if the suit had been brought against a manufacturer who had sold a thousand machines, this may be admitted; but if he means that it would not represent the *actual damages* inflicted by the infringement, he is wrong.

"*Enormous and ruinous*" is the language the Supreme Court applied in setting aside a judgment at the rate of less than $60 a machine, where the invention was a reaping machine, much more ingenious and expensive than that of complainants, and $5 per machine was what it allowed as royalty on a harvester in *Marsh* v. *Seymour* above cited. This was not allowed as nominal, but as actual damages.

The assumption that the recovery must be a sufficiently magnificent sum to give dignity to the report of the master, however limited the infringement, is one which would make the master in chancery the most efficient instrument for enforcing the extortions of those speculators in patents, who traverse the country blackmailing the innocent uses of petty articles which have been generally sold without any effort to stop them, threatening expensive litigation if they do not settle by paying for each article a hundred fold what they would ever voluntarily purchase it for. Such attacks upon users have not been regarded as especially meritorious, but the master's idea is that the judgment in such a case ought to be in proportion to the importance and extravagance of the demand, and that by intimidating or persuading into exorbitant settlements those who can not afford the expense of litigation, a conclusive and retroactive measure of damages can be established to be enforced against any who refuse to submit to the extortion.

Such a theory, if established, would make masters in chancery the most efficient agents for enforcing the impo-

sitions of such blackmailers. It would put a premium upon their services as more subservient to the purposes of extortion than petty juries; and it only has to be understood that masters' fees are to be allowed in proportion to the recoveries reported by them to complete the adaptation of the court of equity to the enforcement of such extortions.

In *Ford* v. *Kurts*, 12 F. Rep., Justice Harlan approving a finding of $28 as actual damages, allows no costs, and taxes half the master's fees on complainant, because when he could have settled for what he was entitled to, he made the expense of litigation for the purpose of mulcting defendant in damages for an infringement not malicious.

The statement that the patentees were at a great disadvantage as compared with the brewers, and that it was impossible for them to deal on equal terms with them, is the converse of the fact.

A patentee who is selling machines always deals with a mere user of a machine at a great advantage. The user has every thing to lose and nothing to gain by litigations over a machine in which he is not dealing, and will usually submit to considerable imposition rather than hazard a law suit. It does not appear that during the entire term of the patent any brewer who was advised of complainant's claim bought or put into use an infringing machine, or that any who had such a machine ever refused, upon request, to pay the patentees the amount they would have made by the sale of that machine on any terms ever asked by them.

The evidence already quoted shows the statement, often reiterated by the master, that there were a number of years when they could sell no machines, to be untrue, and that both Holbeck and Stromberg were selling from the time the title reverted from the Barrel Pitching Machine Company. During the time it was vested in that company the patentees had no legal right to sell. The statement is absurd on its face; for if there was profit enough in the business to encourage infringement so extensively as the master assumes, the patentees could, with the prestige the patent necessarily gave them, at least compete with some

profit. No infringer whose competition ever affected them has been named, and Gottfried, who generalizes so glibly on direct examination, had personally no part in the sales of machines, and shows no means of knowing that any sales were lost by these means.

The "about twenty machines," which Gottfried says he and Holbeck sold prior to 1876, does not include those sold by the Pitching Machine Company, or by Stromberg, both of whom were selling under the patent.

The "*almost any price*" at which the master says Holbeck was compelled to sell machines, was from one hundred and fifty to two hundred dollars for machines that could not have cost over half as much to construct—a profit of at least a hundred per cent.

To allow the complainant the largest royalty he ever asked, or even the gross profit the patentees were offering this machine for, before they heard of any infringement the master speaks of as a punishment to complainant. "*Enormous* and *ruinous*" is the language which the supreme Court applies to a recovery of five dollars a machine on a much greater invention. But the Supreme Court was proceeding on the theory that the recovery was limited to actual damages affirmatively proved, and the master on the theory that complainant is presumptively entitled to any measure of damages he asks for, without proof of any actual damages, and that any limitations upon what complainant claims must be treated as in the nature of an estoppel, and proved by defendants beyond a reasonable doubt.

If this were the rule, and the burden were on defendants to disprove damages, they have affirmatively proved, to a demonstration, that complainant's actual damage, by reason of defendants' infringement, has not exceeded the royalty per machine.

The fact upon which the master lays stress, that defendants' did not know of the sales by Gottfried and Holbeck, would only tend to prove that their loss of the sale of this machine was due to their own *laches;* that they were not deprived of any profit they would otherwise have

made, by reason of the trespass, and are only entitled to nominal damages.

The master's statement, that this grant from Gottfried to Holbeck and his assigns, "did not affect their rights, as against the public," is a strange one. It most materially affected the right of each party to it, as against the public. It deprived one of any right to enjoy or assert the monopoly, as against the public, and vested the other with the exclusive right to do so. This is the only sense in which grant of license or sale under a patent ever affects the rights of the parties, as against the public. The fact that a grant to a person "*and his assigns*" is not a "*personal*" grant, is too familiar in law for the constant reiteration of the master to reverse it.

The master says that if the sales by Holbeck did fix the rate of recovery, complainant is not bound by it. Certainly he is bound by it, so far as the question of damages sustained while these sales were lawfully made is concerned; first, because he recovers, if at all, as assignee of the damages accruing to Holbeck; second, because he was at the time a party to these sales; and third, because the loss of one of these sales represents the only injury suffered by either of them, the profit that would have accrued from such a sale, the only advantage either of them would have derived if their rights had been respected by these defendants.

The master's statement that it does not appear "that Gottfried was in any way connected with the sales of" the machines sold by Holbeck after May, 1879, is made in the face of the fact that they were shown to have been made under an express license in writing by Gottfried, and as the only means he was adopting of putting the invention into use.

The theory of the master's report seems to be that there should be a sufficient award to give dignity to the case, irrespective of whether the suit is against the manufacturer of many machines, or the user of one machine.

MASTER'S CITATION OF LAW.

The master, though bringing to his work an eagerness to justify a large judgment, which has distorted the facts, has failed to find, in either text-books or decisions, a solitary *dictum* to support the measure of damages adopted by him. Not one case is found where settlements made with infringers is recognized as a basis of recovery. Every case alluding to the subject is emphatic to the contrary. Not one is found in which the patentees had licensed the unlimited sale of the machine at a stated license, in which damages beyond that license has been allowed. Not one is found which authorizes any departure from the rule that the actual damage is limited to the amount which the patentee has been deprived of by the particular trespass, and which he presumably would have made in the manner of enjoying the franchise adopted by him at or before the date of infringement. Not one of them recognizes the value of the invention as any measure of damages except as under some peculiar mode of enjoying the invention by which the patentee is actually making all the profit to be made out of its use, and which affords no other criterion of the actual loss to the patentee by reason of the infringement, it may be resorted to as one element in ascertaining that loss.

In *Suffolk Co.* v. *Hayden*, 3 Wall. 315, there had been no sale or license under the patent. The patentee had retained the sole use of the invention himself. The court, after recognizing the fact that if there had been sales or licenses, the license fee so established would be the measure of actual damages, holds that, in the absence of sales or licenses, the value of the invention may be considered with other general evidence, to enable the jury "*to ascertain the damages, or, in other words, the loss to the patentee or owner, by the piracy, instead of the purchase of the use of the inuention*" (*p.* 320).

This is in strict accord with *New York* v. *Ransom*, 23 How. 487, and *Packet Co.* v. *Sickles*, 19 Wall. 611, where the court sets aside a verdict, because the jury had been

instructed that the value of the invention could be taken as the measure of recovery.

The language of the Supreme Court in *Birdsall* v. *Coolidge*, 93 U. S. 90, to the effect that circumstances may exist where the finding should be larger than the royalty, is used with reference to a case where the infringement was not commensurate with that authorized by the license, and in that case the Supreme Court reversed the judgment for the royalty at which the sale of the machine had been licensed, because it was error to give the full license fee where the use had been a short one. Conversely, where the license was limited to a particular term, and the infringement had been for a longer term, or where the licenses were limited to use in particular territory, and the infringement was in territory which the patentee had reserved to enjoy in some other way more profitable to himself, his actual damage might be proportionately increased, so, too, where the patentee has, prior to the infringement, established, in the ordinary course of business, a higher rate of royalty, which has been generally acquiesced in by the voluntary purchase of machines at that rate, it may become the actual measure of damages inflicted at the time of infringement.

These are the only instances mentioned by Walker where damages in excess of a rate of royalty fixed by the patentee prior to the infringement can be given (*p.* 390, *sec.* 398), and no color is anywhere given to the theory that the master can give speculative damages, five hundred or a thousand fold the royalty which measures the actual "loss to the patentee or owner by the piracy, instead of the purchase of the use of the invention."

What the court held in *Bussey* v. *Excelsior Co.* was, that, where there was no license in force at the time of the infringement, and the complainant failed to furnish any other measure of actual damage, only nominal damages should be given.

In the present case, the sale of machines was under no restriction or limitation. It carried with it the right to use the machine in any part of the country, and for the entire

life of it, and there is nowhere a scintilla of evidence that complainant has suffered actual damage by reason of the infringement, beyond the loss of the royalty, which is the most he would have got by the lawful purchase of the machine.

The fact that machines were on sale for such royalty shows conclusively that something else besides the acquisition of the machine with the right to use it operated upon parties who were cajoled into extravagant settlements. If the license fee per machine is not taken as the basis of "actual damages," the recovery must be literally nominal damages.

If such measures of recovery as the master here assumes could be enforced, the condition of manufacturers and the public generally, who are liable to be called to account for any simple device that they are innocently using, and mulcted arbitrarily and without reason or mercy, would be intolerable. A law so administered would bring, not encouragement, but paralysis, to the industrial arts.

Respectfully,

ROBT. H. PARKINSON,
Of Counsel for Appellants.

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JAMES H. McKENNEY,
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Supreme Court of the United States.

THE CRESCENT BREWING COMPANY,
Appellant,
v.
MATTHEW GOTTFRIED,
Appellee,
No. 294.

AND TWO OTHER CASES.

BRIEF AND ARGUMENT FOR APPELLEE.

EPHRAIM BANNING,
THOMAS A. BANNING,
Solicitors for Appellee.

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Supreme Court of the United States.

THE CRESCENT BREWING COMPANY, *Appellant*, vs. MATTHEW GOTTFRIED, *Appellee.*	No. 294.	Appeal from the Circuit Court of the United States for the District of Indiana.
RACHEL S. GAFF, executrix of JAMES W. GAFF, deceased, and SAMUEL D. LANGTREE, *Appellants*, vs. MATTHEW GOTTFRIED, *Appellee.*	No. 295.	Appeal from the Circuit Court of the United States for the District of Indiana.
EUGENE HACK AND ANTON SIMON, *Appellants*, vs. MATTHEW GOTTFRIED, *Appellee.*	No. 296.	Appeal from the Circuit Court of the United States for the District of Indiana.

Brief and Argument for Appellee.

MAY IT PLEASE THE COURT.

These are bills in equity for infringement of letters patent No. 42,580, issued May 3rd, 1864, to John F. T. Holbeck and Matthew Gottfried for an improvement in pitching barrels. The patent expired May 3rd, 1881. The bills as they appear in the records were filed, respectively, March 21st and March 23rd, 1881. This was sufficient time under *Clark* v. *Wooster*, (119 U. S. 323,) where a bill filed fifteen days before the patent expired was sustained by this Court. But in effect and in fact the

commencement of the suits considerably antedates these dates.

In the Gaff and Langtree case the bill was filed February 1, 1879, (Gaff Record 17). Langtree was served February 5, 1879, and Gaff returned as dead, (Gaff Record 21). January 19, 1880, a decree pro confesso was entered against Langtree, inadvertently including Gaff, who was dead, (Gaff Record 21). March 23, 1881, a stipulation was filed setting aside the pro confesso decree and providing that the bill might be amended by dismissing as to certain of the complainants, who had sold their interest to Gottfried since the filing of the bill, and by introducing the representative of the Gaff estate as a party, (Gaff Record 23). March 23, 1881, an order was entered in pursuance of this stipulation, that "such amendment be made by *withdrawing* the bill of complaint now on file and filing a new one as a substitute therefor." So that the Gaff and Langtree case was, in fact, begun February 1, 1879, instead of March 23, 1881.

In the Hack and Simon case the bill was filed February 18, 1880, (Hack Record 17). July 16, 1880, a decree pro confesso was entered (Hack Record 23). March 23, 1881. a stipulation was filed providing that this decree might be set aside and the bill dismissed as to Holbeck, who had parted with his interest, and that the amendment might be made by "*withdrawing* the bill now on file and filing a new one as a substitute therefor," (Hack Record 23). So that in reality the Hack and Simon case was begun February 18, 1880.

The Crescent Brewing Company case was an off-shoot or branch of the Gaff case. June 15, 1881, James R. Vail was called by complainants as a witness in the Gaff case. He described himself as the book-keeper of the Crescent Brewing Company and said that when he "commenced the brewery was operated by Gaff & Co., composed of James W. Gaff and Samuel D. Langtree. It continued to be operated by them until the 30th day of April, 1879, at which time the Crescent Brewing Company became its owner. The officers of the company are James W. Gaff, (son of the former owner,) president; Samuel D. Langtree, treasurer and general manager," (Crescent Record 43.) Thus it appears that the Crescent Brewing Company is the successor of Gaff and Langtree, and came into operation after the suit against Gaff and Langtree was first begun—February 1, 1879. And in the stipulation of March 23, 1881, in the Gaff case, it is provided that another bill might be filed against the Crescent Brewing Company, and that the deposition of Vail, previously taken, should be used therein, (Gaff Record 24.) So that for all practical purposes, the Crescent Brewing Company case was a mere continuation of one portion of the Gaff suit, begun February 1, 1879. In fact, both of these suits were for the use of the same machine at different periods of time.

The cases came on for hearing before his honor, Judge Gresham, at Indianapolis, in the spring of 1882. After holding the cases under advisement a short time, Judge Gresham announced his decision against the complainant, on the ground that the patent was invalid. His opinion is published in 9 Fed. Rep. 762. An application for a

rehearing was made, and on this hearing Judge Gresham was satisfied that he had made a mistake, or, as he expresses it, that "undue importance" had been attached to certain grounds of defence, and so he withdrew his former ruling an' ordered an accounting, (Crescent Record 15.) On this accounting, the Master reported that the Crescent Brewing Company should pay $4,215.95, that Gaff and Langtree should pay $5,460.45, and that Hack and Simon should pay $700.00, (Crescent Record 25.) Defendants filed 86 (!) exceptions, and on argument before his Honor, Judge Woods, they were all overruled and final decrees entered for the amounts above named.

These three cases are the last that remain of hundreds begun under the Gottfried-Holbeck patent. They are the tail end of litigation in which Gottfried has had to meet extensive and combined opposition. Probably 3,000 infringements have taken place. Gottfried says that the invention "has been used in about 3,000 breweries without having paid for the right to use it," (Crescent Record 214.) Every effort has been made to defeat Gottfried and incite opposition. The United States Brewers Association—comprising hundreds of wealthy brewers—made a united and bitter opposition. They fought and encouraged others to fight. After the patent had been sustained by Judge Blodgett and again by Judge Dyer they sent out a circular to the trade advising them that they had the opinion of counsel in reference to the Gottfried suits, and that such opinion was that "if eminent patent counselors were engaged such suits would be decided against the patent claims," (Crescent Record

255). But of hundreds these three cases alone remain to test the soundness of that advice.

In further preliminary explanation we desire to call attention to the stipulation in the Crescent Brewing Company case, to the effect that all three cases shall be heard on the same record, except as to any special fact appearing in the Gaff or Hack cases, (Crescent Record 424). And unless specially stated all references will hereafter be made to the Crescent Record.

THE NATURE AND CHARACTERISTICS OF THE GOTTFRIED-HOLBECK INVENTION.

The patent to Gottfried and Holbeck sued on was for improvements in pitching barrels and casks used in the brewing business. Barrels, kegs and casks intended to contain beer require to be pitched with pitch or rosin to completely coat the inside, fill all the cracks, crevices or pores in the keg or cask, and isolate the beer from contact with the wood, which would spoil it. This pitching was a difficult operation before complainants invention. The only way known or practiced, as to smalls kegs and barrels, was to knock the hoops off one end, loosen the staves, take out the head, put on the hoops, tighten the staves, kindle a fire in the keg or barrel to melt the old pitch adhering to the staves from former pitchings, put out the fire, knock off the hoops, loosen the staves, insert the head, put on the hoops, tighten the kegs, put in more pitch, melted in a kettle, and roll the keg to secure a complete distribution of the pitch over the inside of the keg and keep it from cooling with too much pitch on one

place. This was the state of the art for the pitching of *all kegs and barrels*, as described by Gottfried, (Record 208.) Other witnesses testifiy to the same method; but on this point we do not understand that there is any controversy.

The large casks, hogsheads or tuns, as they are indifferently called, which contain 30, 40, 60 barrels of beer in storage, were generally pitched in the same way as kegs, but the evidence shows that in some instances a device called a "pitching pan" was used. These pans were first mentioned by the witness Seibel, (Record 133,) and one of them introduced in evidence. They were about "1½ to 2 feet long, 5 to 6 inches wide, 7 to 8 inches high," (Record 183.) The pan was filed with charcoal or other fuel, which was set on fire, and slid into the cask through the "man hole"—a door in the head of the cask about 10 inches wide by 18 inches high—where it was allowed to burn until the cask was heated. While in the cask a bellows was used to urge the fire. It required, according to Seibel the maker of the pans, "not quite a half hour to melt all the pitch in a cask of thirty or thirty-five barrels," (Record 133.) As stated in defendants translation from Handbuch fur Bier-Brauer, which described a pan substantially like Siebel's, "after the lapse of half an hour" the cask is so heated that "the other work can be proceeded with" in the operation of pitching, (Record 184.)

The mechanical features of the Gottfried-Holbeck invention, or rather the mechanism by which their ideas were effectuated, consist in a furnace of suitable size, but

as generally used, capable of holding two or three bushels of coke, a blower for driving a currant of air through the furnace in direct contact with the fire, and pipes for conducting the heated products of combustion to the barrel to be heated. The drawings, (Record 6,) illustrate the most simple form of construction, as they should, and show it in use with a cask, but the specification specifically mentions "barrels" and says that "in the accompanying drawings we have represented *one mode* of carrying our invention into effect." The drawings show the furnace as having but little fuel in it, but the specification says that "a fire is made upon the grate" and we presume some sense as to the amount of fuel needed to make a hot fire can be presupposed in the operator. The drawings also show the current of air striking the upper portion of the fuel but the specification speaks of the air as rushing "*through* the fire which is built upon the grate." The drawings show the air passage entering above the grate but the specification says that it may enter "below the grate" which would necessarily require the air to pass "through" the fire, as it also would when the furnace was filled with fuel. We mention these trifles because they have been the subject of criticism by counsel in the court below.

The specification says:

Before filling casks with spiritous or volatile liquids it is necessary to render the casks impervious to air, the most common and probably the cheapest method of doing which has been to flow melted pitch or other substance into the pores and joints of the casks while they are in a heated state, but the difficulties hitherto attending the process arise in consequence of a want of some economical means of heating the casks *without burning or seriously charring* their inside surfaces.

My invention has for its object the preparation of casks for receiving pitch or other melted substance suited to the object in view by subjecting said casks to *blasts of highly heated air* by *means* of an *apparatus* hereinafter described.

The first and important claim of the patent is:

The application of heated air under blast to the interior of casks by means substantially as described and for the purpose set forth.

This claim is for a process, namely, the process of heating the interior of barrels for pitching by means of the hot blast described. On this point the witnesses for both sides are agreed.

Mr. Graham, complainants mechanical expert, says:

As I understand it, the process is in the reduction of atmospheric air from its natural state to the heated products of combustion, and its introduction into the interior of casks by the mechanical means specified," (Record 64.)

Mr. Knight, defendants expert, after mentioning the claims of the patent says:

Of these claims I understand the first to be a process or mode of operation in which a blast of heated air is introduced to the interior of casks by means substantially as described and for the purposes set forth in the body of the specification," (Record 189.)

And right here, we deem it a proper place to enter, at some length, on a consideration and analysis of the nature, operation and effects of the Gottfried-Holbeck process over the old methods of pitching, the advantages of the Gottfried-Holbeck process over the old methods, and the inherent requirements of the work to be done—difficulties which existed in the nature of things, and without meeting which, success was impossible. And in this branch

of our argument we expect to lay down premises which, if accepted, will dispose of every defense presented.

Walter S. Haines, Professor of Chemistry in Rush Medical College, Chicago, which ranks third or fourth among such institutions in this country, speaking of the Gottfried-Holbeck blast, says:

The chemical constituents of this blast are nitrogen, carbonic acid gas, highly heated steam, and perhaps a little unconsumed oxygen. Whether the latter is present or not would depend upon the regulation of the blast of entering air.....

The blast as produced according to the specification would be free from any quantity of oxygen that could cause further combustion to take place. Oxygen being essential to combustion, no burning can take place where it is absent.....

The blast provided for in the patent referred to would be much better for the purpose of pitching barrels than the blast of pure air or one containing a considerable proportion of free oxygen.....

Oxygen burns up wood, pitch, and other similar substances when brought in contact with them at a high temperature. If, therefore, the blast employed contained any considerable proportion of free oxygen it would have a tendency to injure both the barrels and the pitch by burning them. In the patent referred to, the oxygen having been taken from the air by its being passed through a burning fire, the resulting blast would not have power of consuming the pitch or the barrel used. A blast of heated air either deprived not at all or imperfectly of its free oxygen would be calculated to injure the pitch and the barrel by causing them to burn to a greater or a less degree.....

On the 31st of December, 1878, at about eleven o'clock in the forenoon, I visited Mr. Gottfried's brewery, and saw a practical operation of his machine in pitching puncheons. These puncheons which were being pitched were quite large, being about six feet in height. The orifice through which the hot blast entered the barrel was about four inches in diameter, and the blast as it escaped from it was so highly heated as to seem like a tongue of fire. This blast being directed into the puncheon fully heated it in one minute, notwithstanding the fact that the puncheon had been recently washed therefore taking more time to heat to a sufficient degree to receive a new coating of pitch.

While the blast was playing into the puncheon no ~~combination~~ combustion was descernable in it, owing to the absence of free oxygen in the blast; as soon, however, as the blast was removed and the free oxygen from the outside air allowed to enter, so highly heated was the interior of the puncheon that it immediately took fire and burned with active flames. The puncheon would undoubtedly have been consumed had not the opening been closed, thus shutting off the free oxygen.

After witnessing the pitching of the puncheon I tried two or three experiments to get an idea of the temperature of the blast. A bar of iron fully a quarter of an inch thick was held about a foot and a half or two feet from the orifice of the blast, and was heated in about a minute to that degree of redness that corresponds to a temperature of not less than 1,300 degrees Farenheit. The blast, therefore, undoubtedly reached 1,300 degrees, and I believe exceeded that. Wood held before the blast several feet off was almost immediately set on fire, the free oxygen of the air causing combustion to take place at this elevated temperature. I have also made experiments at my labratory to determine at what temperature pitch and wood will ignite in contact with pure air. A piece of hard oak wood was smeared with pitch and put side by side with a small iron wire. This wire was about one-sixteenth of an inch in diameter. The wood and the wire were then subjected to gradually increasing temperature, until the pitched wood took fire and burned actively. At this time the wire was not visibly red in daylight. This experiment convinced me that, in contact with pure air, pitched wood will take fire at a temperature much below the temperature of the blast I witnessed at Mr. Gottfried's brewery. I verified this fact by several experiments and in more than one way." (Record 99, 105.)

Mr. Gottfried, who had been in the brewery business for 44 years when he testified, after fully and plainly describing the old method of pitching, described on page 5, says:

This operation was very tedious and slow, and in spite of the greatest care, barrels and casks were frequently ruined, hoops, heads and staves were often broken, and seldom could we get the barrels together as tight and perfect as when they came from the cooper. It very often

happened that the fire in the barrels and casks rose so rapidly and burned so strongly that a man could not control it, and I have seen a good many fine casks entirely destroyed by the fire getting beyond control: and this operation was also attended with danger to the buildings and men, and I have known in my experience many accidents to happen of a more or less serious nature. I once saw a man have his face and hands so seriously injured that he suffered in the hospital over three months. I once had my hair and whiskers burned off and my face and hands seriously injured by pitching in the old way.....

Our invention was the first that ever enabled kegs and barrels to be pitched without taking the heads out. By the use of our invention great safety and rapidity in pitching are secured. In a test made at my brewery seven men required twenty-eight minutes by the watch to pitch eleven small kegs by the old way, while six men pitching with the machine the same number of kegs of the same kind required only four minutes to do it. At another time one experienced man and five green hands pitched fifty kegs in less than fifteen minutes. In pitching a large number I am sure the difference in time will be still greater. In pitching large casks by the old way it required from twenty-five to thirty minutes, while by the new way it takes from two to three minutes. only. By using our invention the kegs or casks last about three or four times as long, as they are not knocked to pieces in pitchings. The heads, staves and hoops are never broken, nor are the kegs or casks burned out or injured by the fire, as the heat to which they are subjected is produced in such a way that it does not burn or char the wood. This saving in barrels is a very important matter as every brewer knows. Another important saving resulting from the use of our invention is in the matter of pitch. Pitch is of such a nature that by exposing it to the direct action of fire its adhesive qualities are greatly impaired. It becomes brittle and easily cracks and scales off, thus requiring frequent pitchings, and at the same time the work is more expensive and less effective. All this is remedied by the use of our invention. The heat to which the pitch is exposed greatly improves its qualities, making it much tougher and more adhesive, thus rendering the pitchings less frequent and more effective," (Record 208-9.)

William J. Seib, foreman of the Conrad Seipp Brewing Company, of Chicago, the largest in the country outside

of New York and Milwaukee, says that he has personally seen casks burned up many times and men badly burned in pitching by the old way, but that he has never known of an accident in pitching with the machine, (Record 259.)

Anton Schuerle, an experienced brewer, says that the old way of pitching is dangerous to the buildings and men and that the men are burned, (Record 263.)

Clements Uhlemen, a practical brewer of large experience, testified that he has two marks on his own arms where he was burned to the bone in pitching by the old way and that he had friends badly burned, but that by machine no one could be injured, (Record 272.)

Casimer Thienger, a brewer of twenty-five years experience, says that he has many times seen casks burned up and men injured so badly as to be sent to the hospital for three or four months, but that he has never known an accident happen in pitching with a machine, (Record 312.)

To the same purport is the testimony of Edward Thorman, (Record 285,) George Stupp who tells of a man being killed in an accident, (Record 292-3,) August Olinger, (Record 301,) and many other witnesses.

We do not doubt that accidents can happen in pitching by the Gottfried-Holbeck machine *if parties are careless*, like the one to Schwartz, described by him and Liebel, (Record 346, 370-1,) but Schwartz confesses his gross carlessness when he admits that there *might have been water in the cask* when the blast was introduced, and Liebel was not present and could not say what caused the accident.

These two witnesses, Schwartz and Liebel, are the only ones in the whole record who testify to having witnessed an accident that could even be remotely attributed to the use of the machine. One other witness, Jacob Frech, Jr., testified to the explosion of a cask which he said was caused "by machine," but on being pressed, he admitted that the explosion was caused by setting the pitch on fire through the manhole by inserting a red hot iron and "before the machine was applied to this cask," (Record 342.) So we say that while *many* accidents are shown to have occurred by the old method of pitching, but *one* is shown in connection with the machine, and in *this* case the party injured, when asked if there was not water in the cask when the blast was applied, said "I do not know." If a party is so careless as to introduce a highly heated blast into a cask, without seeing that it contains no water or beer, he should not be surprised at an explosion by the sudden generation of steam, in case the cask happened to have a bucket of water or beer in it. Such gross carelessness cannot operate to disparage an invention that has saved *many accidents and untold injury to property and men.*

As the Gottfried-Holbeck patent has been the subject of great and bitter litigation, it may be well at this point to quote from some of the decisions sustaining it to show how the courts have viewed and construed it.

In *Gottfried* v. *Bartholomae*, (3 Banning & A. 311,) which was the first decision in the litigation to which this patent was subjected, but which was set aside and

afterward argued before Judge Dyer, Judge Blodgett said:

The complainants process is perhaps the simplest process by which air can be heated and then driven into casks, and so simple that one can hardly deny that they should have a patent on it if they were the first to invent it. All you have to do is to apply a simple fan or blower and drive the air through the fire. What the fire does not consume will, of course, escape into the cask in a heated condition, heated to the extent of the intensity of the fire. And one of the merits, so to speak, of the device is that by the very process of blowing or driving the air through the fire you increase the intensity of the fire, and, therefore, the intensity of the heat of the air which escapes into the cask.

In *Gottfried* v. *Phillip Best Brewing Co.*, and other cases, (5 Banning & A. 16, 33-4) Judge Dyer, in comparing a prior patent with the Gottfried-Holbeck invention, said:

The evident object of the latter device is to generate and apply to the interior surface of a cask or barrel, heat of such a character and so intense in degree that the pitching of the barrel may be speedily and effectually done, without burning the barrel or impairing the properties or fiber of the wood; and to do this, it would seem that the elements of the air which tend to produce combustion must be eliminated. And it is claimed that this is done by the peculiar but simple method of Gottfried and Holbeck for heating the air, and transmitting it into the cask or barrel. In my examination of these two devices and their methods of operation, I have become convinced that it must be true, as stated by some of the witnesses, that there must be greater economy in passing the air directly through the fire than through pipes since it thereby becomes a powerful means of increasing the heat and also a more direct and efficient means of introducing it into the cask.....

Now, complainants device is claimed to be, and, if anything, is, a new and useful improvement in heating barrels or casks for the purpose of pitching them. And the actual invention of the patentee I consider to be a mechanism consisting of several parts, which are so arranged and connected as to produce a hot blast, composed of such

elements or chemical constituents as will heat the cask or barrel sufficiently to allow it to be quickly and thoroughly pitched, and yet not subject it to such a degree and *quality* of heat as will produce combustion and destroy or injure the barrel. This is the essence of the patentees invention, and it is embodied in the mechanism which they have devised; and, though the various elements or parts of the mechanism, when separately considered, may be regarded as old, yet we are to view them in the light in which they have been combined with the new and useful results which the combination accomplishes. Its value does not consist simply in throwing heat into a barrel, because undoubtedly this could be done by the Davison and Symington device, or by the DeVaux mechanism, but, the one might not sufficiently heat the barrel, and the other might burn it up.

The merit of complainants device consists in pouring into the barrel a blast or volume of heat of such quality and temperature as will put the interior surface in the peculiar condition required for the rapid and successful application of pitch while the integrity of the receptacle is fully preserved. This I consider to be the precise merit of the Gottfried and Holbeck invention, and I think it is patentable.

In *Gottfried* v. *Cresent Brewing Company*, (Record 15,) Judge Gresham, in *withdrawing* his first opinion holding the Gottfried-Holbeck patent to be invalid, said:

The complainants device was the first, and the proof shows that it is to day the only means by which brewers are enabled to pitch barrels and kegs without removing their heads.

In *Gottfried* v. *Stahlman*, and thirteen other cases, (13 Fed. Rep. 673,) Judges McCrary and Nelson said:

At the conclusion of the argument on the final hearing in these cases, the court on consulation were convinced that the patent should be sustained, but deferred announcing an opinion until a decision should be reached by Judge Gresham, of the Indiana Circuit who had under consideration the validity of the patent in the case of *Gottfried* v. *Brewing Co.*, in which and the cases before this court substantially the same testimony is presented. Judge Gresham, after a rehearing, sustained

the patent. We concur with this decision, and think it unnecessary to give any reasons additional to those announced by him.

From the foregoing consideration of the evidence, and much more of the same general character will be referred to on the question of damages, and from the opinions of the courts on the circuit, we think there can be no substantial dispute of the correctness of the following summary of the state of the art and of the difficulties and objections that existed with the old methods of pitching.

By the old methods of pitching kegs and barrels, the operation was slow and difficult; in opening the kegs and barrels the heads, hoops and staves were constantly breaking; the breakage thus caused required a great deal of repairing; the kegs and barrels were used up in a short time requiring the constant purchase of new ones; the pitch was injured by contact with the fire in the presence of oxygen which burned out its oily and more adhesive properties; it was thus rendered brittle so that it would soon crack and scale off; the kegs and barrels required on this account frequent and speedy pitchings; much pitch was thus required and used; from the inflamable nature of the pitch and pitched wood the operation of pitching was dangerous to men and buildings; the fire would often get beyond control and burn up the casks and injure the men; the pitching had to be done in the open air and away from the buildings; this required large space and prevented pitching on rainy or stormy days; skilled hands were required to do the work; and coopers were needed to do the repairing.

It is apparent that, taking the state of the art as it existed

at the date of the Gottfried and Holbeck invention, including the Siebel pan, any one would make a valuable improvement and confer a great benefit on the brewing business who would devise means and impart information that would enable the brewers to pitch their kegs and barrels through the *bung-holes*, without *removing* their heads, without *impairing* the quality of the pitch, without *danger* to the buildings and men, without the employment of *skilled* labor, without the necessity of so much *repairing*, without the use of so much *pitch*, and without the waste of *time* entailed by the old methods.

To do these things and effect these results, Gottfried and Holbeck conceived the idea of heating the interior of kegs. barrels and casks by means of a heated blast of air, and devised the means above described for its application. But certain *limitations* existed both in the *nature* of things and in the *results* desired to be accomplished. And as these limitations or conditions will be important, in considering the pertinency of the references relied on in defense, we will here enumerate and explain them *seriatim*.

1. *The blast must be one that would not set the wood or pitch on fire*. No argument is needed to show the importance of this requisite of the blast. That Gottfried and Holbeck contemplated the use of such a blast is shown by their statement that some of the difficulties in pitching by the old method arose from a "want of some economical means of heating the casks without *burning or seriously charring* their inside surfaces."

2. *It must, therefore, be a blast from which the oxygen which causes burning, had been extracted.* As stated by Prof. Haines in the extract above quoted, "oxygen burns up wood, pitch and other similar substances when brought in contact with them at a high temperature." Gottfried and Holbeck proposed to use the "heated products of combustion" which were free from oxygen.

3. *It must be a blast of great intensity of heat to rapidly melt the old pitch remaining in the kegs from former pitchings.* All the evidence shows that the kegs are pitched repeatedly and many times. To leave the old pitch and simply add a new coat every few months would be to submit to a great waste and to an impairment of the utility of the keg by diminishing its capacity to the extent of a pint or a quart at every pitching. Hence Gottfried and Holbeck said that by their process the vessels were to be subjected to "highly heated" blasts.

4. It must be a blast that was applied under *blast or in a rapid and concentrated form.* A diffusive heat would lack the intensity of temperature essential to rapidity and thoroughness. The more the blast was compressed the hotter it became, and the more rapidly it entered the keg or barrel the more effectual its operation. This is evidently the reason that Gottfried and Holbeck in their claim called for the application of heated air "*under blast*," and in their specification speak of subjecting the casks to "*blasts* of highly heated air" and of the *contracted* end" of the discharge pipe through which the "heated products of combustion are *forced*." Prof. Haines says the blast is rendered hotter when "compressed" than when not, (Record 106.)

5. *It must be a blast that would not destroy or impair*

the adhesive qualities of the pitch. Adhesiveness in the pitch was of prime importance. If that quality should be destroyed the pitch would not stick to the wood and so could not be used. Gottfried, in the extract above quoted says that "pitch is of such a nature that by exposing it to the direct action of fire its adhesive qualities are greatly impaired," that it "becomes brittle and easily cracks and scales off, thus requiring frequent pitchings," and that in the use of their process "the heat to which the pitch is subjected greatly improves its qualities, making it much tougher and more adhesive, thus rendering the pitching less frequent and more effective." And Prof. Haines, in the extract above quoted, says that "if the blast employed contained any considerable proportion of free oxygen it would have a tendency to injure both the barrel and the pitch by burning them." On page 106 of the record he gives the scientific explanation of this when he says that "pitch and almost all resinous substances are oxydized or their properties changed by contact with hot *air*," and that "the pitch would *not* be oxydized by the Holbeck and Gottfried blast."

6. *It must be a blast that could be produced and applied by common men about the brewery.* A complicated and difficult method that required special and skilled hands would not have relieved the brewers of the old and expensive method then in vogue. The simplicity and economy of the Gottfried-Holbeck process was as essential to its success as its other intrinsic merits.

7. *It must be a blast free from moisture and capable of thoroughly drying the wood and opening its pores.* A moist heat would not parch the wood and cause its pores to open. And yet the more the pores were opened to let

the pitch penetrate the wood the more effectual and adhesive would be the coat of pitch. The specification speaks of the cask being heated so that the melted pitch will "permeate every pore and interstice."

8. *It must be a blast that would not combine with the pitch or gases of the wood and produce an explosive.* No argument is needed to show the importance of this. Experience has shown that the Gottfried-Holbeck blast procuced no explosive by volatilizing the pitch. This could not be know *a priori* and was a matter to be demonstrated by actual test and experiment.

9. *It must be a blast that was practically uninjurious to the fiber of the wood.* This, too, was a matter that depended on practical experiment. Science might know that a deoxygenized blast would not produce *burning*, but only actual application of this knowledge could show that no impairment, disintegration or destruction of the fiber of the wood would not result when it was repeatedly subjected to "highly heated" blasts even though deoxygenized. No witness in the whole record claims that he could with certainty have said in advance that the Gottfried-Holbeck blast would be practically uninjurious to the wood when operating as described by Prof. Haines. The slow heating Seibel pan, with its gentle heat streaming out for half an hour before a cask was heated, did not show it.

10. *It must be a blast produced in a closed furnace owtside of the vessel to be pitched and directed into the vessel to be pitched.* The blast could not be deoxygenixed or forced into the barrel if the furnace were not *closed*, and barrels and kegs could not be pitched if the furnace were not on the *outside*. Hence both the specification

and drawing of the patent show and described the furnace as closed and as outside of the vessel to be pitched.

11. *It must be a blast that fed and maintained the fire that produced it.* This was an economic necessity and was required to deoxygenize the blast.

12. *It must be a blast produced by a furnace located between the blower and the vessel to be pitched.* It is manifest that a blower which *sucked* the air instead of *forced* it through the furnace would be impractical. The hot blast passing through the blower on its way to the barrel would have warped the case and wings of the fan, have melted the Babbitt or soft metal in the bearings and have destroyed the machine. Nobody would dream of making a practical machine to apply a *hot* blast by sucking the blast through the blower! And so Gottfried and Holbeck like plain sensible men produced the blast used in their process by forcing the air through a furnace placed between the blower and the vessel to be pitched.

13. *It must be a blast and mechanism that were used in the process of pitching barrels and kegs.* If applied to any other purpose they would not embody or show complainants' process.

Gottfried and Holbeck united all these conditions of blast, of mechanism, of operation in their invention, and all of them ARE ESSENTIAL to the success of their process —"the application of heated air under blast to the interior of casks by *means* substantially as described and for the *purpose* set forth."

We do not say that Gottfried and Holbeck deliberately

philosophized about it in this way, enumerated the requirements and defined the conditions *a priori*, or understood the scientific principles involved. It is not necessary that they should. The law is too well settled on this point to require authorities. If they did something useful and taught others to do it they could well leave the analysis and statement of the conditions to scientific men. But when studied and analyzed we find that the problem before them was invested with all the conditions and requirements which we have enumerated, and that they met them all in their invention.

THE DEFENSES RELIED ON.

In considering the various defenses relied on it will be proper to inquire whether they disclose the complainants' process when subjected to the above tests. As all the characteristics of the Gottfried-Holbeck invention, enumerated above, are fully contained in their specification and drawings, by plain statement or necessary conclusion, and are essential to the proper operation of the process, they must of course be found in the prior uses, patents or publications, by plain statement or necessary conclusion, before such uses, patents or publications can be held sufficient to invalidate the complainants' patent. And all these elements, essentails and characteristics of complainants' process, must be found in *one* prior use, patent or publication. *Parks* v. *Booth*, 102 U. S. 103. *Bates* v. *Coe*, 98 U. S., 48. *Imhaeuser* v. *Buerk*, 101 U. S. 660.

As the first and important claim of the patent is for a

process, it is not sufficient to invalidate it to show that furnaces, blowers and connecting pipes were old in other arts. If all these things were admitted to be old, the patent must still be sustained *as a patent for a process* unless it can be shown that it was old to heat barrels and kegs for pitching *without removing their heads* by pouring into them a heated blast that would not burn or injure the wood or pitch, produced in a *closed* furnace, located *outside* of the vessel to be pitched. and *between* the keg and the blower, etc. To show that smelting furnaces had a blast of air driven through them by a blower, and that the resulting blast was deoxygenized, cuts no figure. The novelty of the mechanism alone is not all that is involved in considering a process patent.

In *Fermentation Co.* v. *Maus*, 122 U. S. 428, the Court said:

> "It is, therefore, a process or art. The apparatus for carrying out the process is of secondary consequence, and may itself be old, separately considered, without invalidating the patent, if the process be new and produces a new result."

The words "separately considered" pointedly and precisely indicate what must be found, conjoint and co-existent, to constitute a defense to a process patent. The *mechanism* by which a process of this kind is effectuated, *separately* considered, is not enough. It must, of course, be found, but in addition there must be found the *process*, existing and associated with it.

This idea, that where a process is applied by mechanical means such means become essentials of the process,

just as the elements of a combination are essential, so that infringement or anticipation depends upon the presence of the *mechanical means* as much as on the presence of the *process*, is perhaps as fully recognized by this Court in *Lawther* v. *Hamilton*, decided at this term, and reported in 42 Off. Gaz. 487, as in any other case. In this case the Court, after stating that "there is no new machinery, that "the machinery and apparatus used by Lawther had all been used before," say.

> "While we are satisfied that the invention is that of a process, it is nevertheless limited by the clear terms of the specification, at least so far as the crushing of the seed is concerned, to the use of the kind of instrumentality described."

And so we say that the complainant's process is limited by the clear terms of the specification to the instrumentality described, and that to anticipate the patent, or to infringe it, all of the essentials of mechanism and of operation, above pointed out, must be found.

In considering the various defenses relied upon it will be convenient to begin with the one which defendant's expert, Mr. Knight, regarded as the most nearly approaching the Gottfried-Holbeck invention, which, "of the various patents, publications or devices offered in evidence by the defendants," he said, in his opinion, "most nearly embodies the complainant's invention," (Record 200).

DAVISON AND SYMINGTON 1843 PATENT.

This patent was for "a method of cleansing, purifying

and sweetening casks, vats and other vessels;" and what Davison and Symington desired to accomplish will be readily understood from their own words. Their specification says:

"The nature of our invention consists, firstly, in freeing the wood of casks and other like vessels, while they are in the course of being manufactured and in an unfinished state, from any injurious coloring or flavoring matters with which it may be impregnated by exposing it to the action of rapid currents of hot air; secondly, in freeing casks and other like vessels, after they have been finished and in use, from any mould, must, fungi or other like matters which may collect on the inner surfaces thereof, partly by means of a machinery or apparatus which can be applied inside without removing the heads, partly by rinsing and partly by causing rapid currents of hot air to pass through them." (Record 160.)

They then say that the "construction of the apparatus" by which they "produce the current of heated air is represented in figures 1, 2 and 3 of the drawings."

Referring to these figures of the drawings we see a furnace provided with a series of pipes of horse-shoe form, through which a current of air is driven by a blower, heated by contact with a fire. *The hot blast is composed of air containing its oxygen.* There is no dispute on this point, and Mr. Knight, defendant's expert admits, in speaking of the Davison and Symington patent, that, "the heated gas, which is actually shown as being driven into the cask, is atmospheric air."

Prof. Haines, in comparing the Gottfried-Holbeck blast with the Davison-Symington blast, says:

"The two blasts would be chemically different. That produced by the Davison and Symington would contain the constituents of air unaltered—that is it would consist essentia ly of about one part oxygen to four of nitrogen. The blast produced by the Holbeck and Gottfried patent would consist chiefly of the products of combustion of the fuel

used, together with the nitrogen of the atmosphere. This latter blast, would contain carbonic acid gas, nitrogen, highly heated steam, and some minor products of combustion, varying with the fuel used. The first blast would not alone heat the interior of the cask, but would tend to oxydize—that is it would tend to produce the action commonly known as burning, not necessarily, however, with the production of active flame. The second blast, on the other hand, would simply heat the interior of the cask without oxydizing it, since the oxygen has been taken out from the air by passing the latter through a burning fire. The effects would be, therefore, quite different on both the wood and the pitch. * * * * It does not provide for the blast shown in the latter patent, the two blasts being differently produced, having different chemical composition, and producing different effects." (Record 101.)

No witness disputes Prof. Haines in any of these statements or conclusions. On the contrary, we think Davison and Symington themselves recognize in their specification that their blast at a *high* temperature would burn the casks. and to prevent this they provide a boiler to produce steam and say that—

"When a very high temperature is found necessary to purify the casks from every perceptible taint of must or charr or other bad odor, it may be found useful to introduce along with or in addition to the hot air a small quantity of steam, and for this purpose there is a boiler." (Record 162.)

This statement is certainly significent! It clearly indicates that the Davison and Symington blast was either not very hot, so that "when a very high temperature is found necessary" steam must be used to reinfore it, or that when a high temperature is required steam must be used to prevent burning!

But in closing their specification they say that though they have spoken of "atmospheric air" as that employed, they "do not limit themselves to the use of such air alone, but claim a right to use any sort of air which, being

heated and driven in rapid currents as aforesaid, will produce the like effects." The *like* effects ! Prof. Haines says that the Gottfried-Holbeck blast does *not* produce the like effects. But the specification and drawings in no way, shape or manner suggest or show that the blast may be deoxygenized by heating it in contact with the fire. Under these circumstances, can any one say that Davison and Symington understood, contemplated or disclosed the Gottfried-Holbeck invention. It is preposterous. Yet of all that years of bitter litigation has brought to the surface, Mr. Knight says that in his opinion this patent "most nearly embodies the complainants' invention !"

This Davison and Symington patent has repeatedly been before the courts. It came into the first case and was held insufficient to invalidate the Gottfried-Holbeck patent on mechanical grounds alone. This was ten years ago and before we understood much about patent law, process patents, or even pitching barrels. And so *not one word* of chemical evidence was introduced to show the necessity of a deoxygenized blast, etc., but it was resisted on account of its cumbrous, complicated, expensive mechanism alone.

In *Gottfried* v. *Bartholomae*, (3 Banning & A., 311,) Judge Blodgett said :

"As I have already said the Davison and Symington process may produce the same results, yet they produce them by a different mechanism much more costly; it costs much more to make a machine and fully as much, if not more, to operate it; you would have to produce heat enough in your furnace in addition to the blast which drives the air into your cask. So that the two mechanisms, while they produce the same result and reach the same end, do it by two different processes. Therefore, I do not think the Davison and Symington device anticipates the complainants'."

This opinion was delivered before one word had been introduced to show the chemical constituents of the blast, and the learned Judge assumed that a blast of pure air, heated "by being driven through heated tubes," would answer the purpose of pitching as well as one heated like the Gottfried-Holbeck deoxygenized blast.

But when the cases against the Milwaukee brewers were prepared a closer study of the language of the patent and a fuller consideration of the inherent requirements of the case, disclosed the fact that Gottfried and Holbeck, in selecting their agent and devising their mechanism for its production and application, had been guided by a deeper wisdom than appeared at the first hearing before Judge Blodgett. Evidence of chemists was taken to inform the court of the constituents of the Gottfried-Holbeck blast and of the limitations and conditions under which a heated blast could be applied to heat *wooden* vessels containing so *inflamable* a substance as pitch: and so in *Gttfried* v. *Phillip Best Brewing Co.*, (5 Banning & A. 15), Judge Dyer, after considering the mechanical means for producing and applying the two blasts, said:

"The mechanism of the two devices being radically different in construction, and the methods of heating the air also being dissimilar, I think it is plain that the blasts produced by the Davison and Symington device and by the Gottfried and Holbeck device, must be chemically different. The chemical constituents of complainants' blast, as stated by some of the witnesses, are nitrogen, carbonic acid gas, highly heated steam, and perhaps a little unconsumed oxygen, the presence of the latter depending upon the regulation of the current of entering air; and a great merit of complainants' process would seem to be, that the removal of the oxygen removes the danger of burning the cask or barrel in heating it, for oxygen being essential to combustion, injurious burning could not take place in its absence. The pure air

blast of the Davison and Symington patent, it would appear, would contain the original constituents of air, for the reason that it had not come in direct contact with the fire, but was heated by external heat applied by tubes through which it passed, and therefore, the blast would tend to injure the cask, although the introduction of steam would undoubtedly diminish the injurious effects of oxygen of the air upon the cask.

"Now, the question is, does the Davison and Symington device, which confessedly is much older than complainants', produce, by substantially the same mechanism, the same or substantially the same "character" of heated air, or heated gasses, which are injected into the cask for the purpose of heating it, that are produced by the Gottfried and Holbeck device? The evident object of the latter device is to generate and apply to the interior surface of a cask or barrel, heat of such a character and so intense in degree that the pitching of the barrel may be speedily and effectually done, without burning the barrel or impairing the properties or fibre of the wood; and, to do this, it would seem that the element of the air which tends to produce combustion must be eliminated. And it is claimed that this is done by the peculiar but simple mechanism of Gottfried and Holbeck for heating the air, and transmitting it into the cask or barrel. In my examination of these two devices and their methods of operation, I have become convinced that it must be true, as stated by one of the witnesses, that there is greater economy in passing the air directly through the fire than through pipes, since it thereby becomes a powerful means of increasing the heat, and also a more direct and efficient means of introducing it into the cask; further that the amount of heat required simply to cleanse the interior of the cask might be much less than to thoroughly dry it and open the pores, as is contemplated by the Gottfried and Holbeck invention, and that the idea of assisting the process by the introduction of steam, renders it more clear that no such degree of heat was considered necessary in the operation of merely cleansing the cask, as is required in heating it for the purpose of pitching."

But even if the constituents and effects of the blast were the same in the Davison and Symington patent and in the Gottfried-Holbeck process the wide difference in mechanism would clearly distinguish them. The complicated method of the English patent cannot be consid-

ered the "means substantially as described" to which the claim of complainant's patent is specifically limited. Hence Judge Blodgett, *on mechanical grounds alone*, held the Davison and Symington patent insufficient as a defense. How much more is its insufficiency now demonstrated when the character and results of its blast are considered.

From all these considerations it follows that the Davison and Symington patent must fail as an anticipation because its blast is lacking in the following particulars, which we have heretofore shown to be essentials of complainant's process:

It is not a blast that could be used at a high temperature without setting the *wood and pitch on fire.*

It is not a blast from which the oxygen has been *extracted in the process of heating it.*

It is not a blast of great intensity of heat capable of melting the old pitch *remaining from former pitchings.*

It is not a blast that would not destroy the *adhesive qualities of the pitch.*

It is not a blast that was practically *uninjurious to the fiber of the wood.*

It is not a blast that *fed and maintained the fire that produced it.* or that was applied by "means substantially as described." And, in addition,

It is not a blast that, in its forty-five years of existence, *has ever been used in pitching.*

THE SIEBEL PITCHING PAN.

Another defense relied upon, and much pressed in the Court below, is what is known as the Siebel pitching pan.

This is shown to have been used in perhaps twenty or thirty of about the three thousand breweries in the United States, but, of course, the number, except as showing that the device never came into general use, is unimportant. This pitching pan was in the neighborhood of two feet long, six inches wide and seven or eight inches deep. It was open at the top and slid into the cask through the man-hole in the end. A perforated pipe ran lengthwise along the bottom of the pan and connected through means of a hose with an ordinary blacksmith's bellows. The air was driven by the bellows through the perforated pipe and thence escaped through the perforations into the pan whence they passed through the fuel and escaped from the whole top of the pan into the interior of the cask. The pitching pan is described in the Handbuch fur Bier-Brauer, 1854, (Record 183), where it is described as resting on four small feet "one inch long," and defendants' sketch of it, as described in the Handbuch, is presented in the Record opposite page 187. As described by both Siebel. the manufacturer of the pan, and the Handbuch, the use of the pan required about half an hour to heat an ordinary thirty-barrel cask.

There are several reasons why, when properly viewed, this pitching pan cannot be held to anticipate the Gottfried-Holbeck patent.

It does not heat the vessels to be pitched by a heating medium which is applied "*under blast*," or in a rapid concentrated stream that by being *contracted* becomes intensely heated. Instead of being capable of fully heating a cask in one minute, as testified to by Prof. Haines (Record 105) it required nearly, if not quite, half an hour. Its heat was not applied "under blast" in any sense of

that term, although the claim expressly requires this. Webster defines a blast as "a *forcible stream* of air from an orifice." After the Gottfried-Holbeck blast has passed through the fire it is collected or compressed into a "blast," or rapid, forcible, concentrated stream or volume of heat. It is not sufficient to apply it in a mild, diffused, extended or scattered form. So applied, its merits are impaired and its effects diminished. By applying it under blast, or in a concentrated and compressed form, its heat is intensified and increased many fold. This is shown by the effect of a sun-glass by which the feeble rays of a winter sun, focused on one spot, will ignite wood. It was by the "application" of sunbeams "under blast" that Archimedes is said to have fired the Roman fleet, while without thus applying it, the ships might have rotted unburned in front of ancient Syracuse.

The Siebel pan does not provide for any compression or concentration of air after it has passed through the fire so as to deliver it to the vessel to be pitched in or under blast. It cannot, therefore, produce the intense heat of complainants' process, so essential to effectiveness and rapidity in pitching. The defendants' witness, Stifel, speaking of the pitching pan which he had used for years, says that "it produced a moderate fire," and that "often the pitching machine (the Siebel pan) is taken out and the new pitch is put in and set on fire with a red hot iron and let it burn from three to ten minutes." (Record 139.) Of course it produces a "moderate" heat. It could scarcely be otherwise when the heat is diffused from the entire surface of the pan. The force and power of the blast, as such, is exhausted in producing the combustion in the pan, and is not again compressed and poured into

the cask in one concentrated volume. These pans require, therefore, naturally from ten to twenty times as long to heat a cask. The difference between a *diffused* heat and a *blast*, which the claim calls for, is alone sufficient to distinguish the Siebel and the Handbuck pitching pans from the Gottfried-Holbeck invention.

Then the pitching pan does not afford a source of heat *external* to the cask. The blast is not *produced* outside and *then* introduced. The pan stands in the cask like a stove in a room. Yet no one would contend that heating a room with a stove in it was the same as heating it by a furnace placed in the basement. from which the heat was conveyed through the house by means of a system of pipes and registers. This method of heating, in use in cities in all houses of the better class, is covered by patents. Would the defendants' counsel claim that it was anticipated by the ordinary stove? Surely not. But the first claim of the patent is expressly limited to a process applied by "means substantially as described." Great stress was laid by Judge Dyer on these words; he says that "if the words 'by means substantially as described' were omitted, the question would be a very different one." (5 Banning & A. 36). By referring back to the specification and drawings to ascertain the means described, we find the furnace for producing the blast *external* to the cask. The claim, therefore, expressly requires the furnace to be outside of the cask. A furnace or pan placed inside the cask, is not the *means* described in the patent. It is not the source of heat called for. Its use could not be held an infringement. A court would at once say that the process was not applied by the "means" described. But a use that amounts to an anticipation must be one

that would, if subsequent to the patent, amount to an infringement. Owing to this difference in the arrangement of the "means" employed to produce and apply the process, if for no other reason, the Siebel pan is insufficient to anticipate the patent.

And the externality of the means for producing and applying the heat was for an important object. In no other way could barrels, or, as they are now generally called, kegs, be pitched. The use of the Siebel pan was necessarily confined to casks. It could not be used except in vessels that could receive it. But to enable the heat to be applied in a blast and to utilize it in pitching small vessels, Gottfried and Holbeck provided means external to the vessel to be pitched. The externality of the furnace was necessary for both these purposes. By adapting the invention to small kegs, its use extended to hundreds of vessels where the pitching pan extended to one, and its benefits increased to thousands of dollars where those of the pitching pan was confined to hundreds.

Again, the object of the pitching pan was to keep the fire from actual contact with the wood. This was the primal idea in its inception. Before its introduction the universal practice was to build the fire in the cask, *on and in direct contact* with the wood. The pitch in the cask made a raging fire which spread over the entire inner surface and burned and charred the wood. The first crude idea to prevent the fire from coming into contact with the wood would naturally be to interpose a broad flat piece of sheet iron beneath the fire. As this would not prevent the coals from becoming scattered, the next step would be to bend the piece of iron up at the sides and ends. This would give us the pitching pan. But this pan lying

flat on the wood would become hot and burn and char it where it lay. To prevent this it would naturally occur to the operator to lift the pan up from the floor, or place short legs under it so as to make a space between the pan and the wood. The legs could have no other object, but they finish the most perfect form of the pitching pan. And hence we find these legs in the 1854 publication and in the Siebel pan. Thus the idea of keeping the fire from direct contact with the wood to prevent its burning and charring the cask, led up to the perfected pitching pan as now before the Court. The pan was not adapted to, nor did it in fact facilitate or expedite the pitching. If anything, it took longer than if there were a fire in the cask. But it did keep the fire and wood apart.

Gottfried and Holbeck, on the other hand, were animated by wholly different ideas in moving the furnace and fire entirely outside of the cask. They had no objection to driving their blast directly against the wood or pitch. In fact they say they "subject" the casks to blasts of great intensity. Their intense and powerful but harmless blast is driven directly into the cask and against the wood and pitch. Thus we see the inventor of the pitching pan and the inventors of the process in question were proceeding on wholly different ideas. While the two apparatus may have the same general object in view —the same as a sickle and a harvester—they are based on distinct intentions, proceed from different standpoints, employ divers means, and end in widely different degrees of perfection. The one is a vast improvement on the other to say the least.

But if it be an *improvement* it is patentable. The defendants have seemed to proceed on the idea that if they

could show that heating for pitching by the use of hot gases was old, they had ended the case. Suppose that much to be old; what of it? A *process* is as much the subject of *improvement* as a machine. The Supreme Court, in defining a process, say, that "in the language of the patent law, it is an art." (*Cochrane* v. *Deener*, 94 U. S. 788). An improvement in a process or art is patentable. The statute in force at the time complainants' patent was granted, says: "Any person or persons having discovered or invented any new and useful art, machine, manufacture or composition of matter, or any new and useful *improvement on any art*, machine," etc., is entitled to a patent. There cannot be any question, therefore, that complainants' patent is sustainable over the pitching pan on the ground of its being an improvement in the process of pitching barrels, to say nothing of the material differences in the means employed. To hold otherwise would give a breadth and absorbing character to the pitching pan that would wholly shut the door to future invention. Instead of encouraging progress and improvement in the useful arts it would prevent them.

In his opinion in this cause (Record 15,) Judge Gresham, in considering the Siebel pan, said:

"This furnace he inserted into the cask through the man-hole, and there operated it. Of course, this machine could not be used in pitching kegs or small receptacles into which it could not be inserted. In this and other respects the Siebel device was crude and imperfect, compared with the complainants' machine, which was located and operated outside the receptacle to be heated and pitched, and which was adapted to pitching barrels and small kegs as well as casks. The complainants' device was the first, and the proof shows that it is to-day the only means by which brewers are enabled to pitch barrels and kegs without removing the heads. This device also forces into the receptacle to be heated a much hotter blast than Siebel can apply with

his machine, and with it brewers are enabled to do their pitching more expeditiously and economically. The method or means which the complainants employed in forcing into the cask a hot blast, consisting of the same elements as the Siebel blast, produced, if not a new result, certainly a much better one than could be produced by any other method or means then known to persons engaged in the business of brewing. Compared with other means for heating the interior of casks and receptacles, the complainants produced a new mechanism or thing which enabled them to pitch casks and kegs more rapidly and economically than they had ever been pitched before. I think the complainants were entitled to a patent, not for the improved or better result or effect, but for the mechanism or means by which the result was accomplished. It is the policy of the law to encourage useful improvements, and I am unwilling to hold that the complainants' device, consisting of old elements, combined and operated as stated in the specification, practically superseding, as it does, all other known means of pitching kegs and other small receptacles, and greatly superior, as it confessedly is, to Siebel's machine for pitching large casks is the mere mechanical equivalent of the latter, or any other device."

From these considerations it follows that the Siebel pan and of course the pan like it described in the Handbuch, must fail as anticipations because it is lacking in several important particulars shown to be essentials of complainants' process:

It was incapable of producing a heat of such *intensity as to rapidly melt the old pitch* remaining in the casks from former pitchings and prepare the cask to receive more, but produced only a "moderate" heat.

It was incable of *applying the heat under blast* as required by complainants' process, but in a mild, diffused, uncompressed and unconcentrated form.

It did not produce a blast *in a closed furnace outside* of the vessel *to be pitched*, but was inserted into the cask and so was incapable of use in pitching barrels and kegs.

It did not produce a blast in a furnace located *between* the blower and the *vessel to be pitched*, and could not under any circumstances have been held to infringe complainants' claim which applied the process *by means substantially as described*.

It was, to take the most favorable view of it, a crude, imperfect and cumbersome device, embodying a crude and imperfect process which could not prevent the issuance of a patent for an improvement in the process, to take the least favorable view of the Gottfried-Holbeck patent.

DER BIERBRAUER OF 1861.

Another defense presented is the German publication called Der Bierbrauer of 1861. A translation furnished by defendants, and therefore, presumably as liberal as the facts will warrant, is presented on page 185 of the record. This publication is so indefinite in its description that defendants' expert did not venture to say what it did describe, but prefaced his guarded and meagre remarks about it by saying that it "*appears*" to describe something which he says he "rudely sketched" and which faces page 195. In fact the whole publication is so vague, indefinite and nebulous, and there are so many objections to be urged to it, that it is a matter of astonishment to us that any importance whatever could be attached to it. But as defendants' counsel laid such great store by it in the court below, and at the first caused Judge Gresham to attach importance to it, (9 Fed. Rep, 762), we will consider it fully.

The publication relates to the "*drying* and rendering

impervious of casks"—these two things. But as the court will see only that portion of the publication which relates to the *drying* of casks has been translated. The first part of the article—about the method of drying casks—has nothing to do with the second part, which relates to the method of rendering them impervious—the object in pitching—so that defendants seem to have translated the wrong portion.

In the part printed in defendants' evidence, the object in the mind of the writer was simply the *drying* of casks to prevent *rotting*. Nothing from first to last is said about *heating* them for *pitching*. No thought of the Gottfried-Holbeck process, or the "highly heated blast," to use their words, is anywhere manifested. The writer of the publication mentions the summer atmosphere as sufficient. In winter he says a tight room should be used with a fire in it to warm the air. The *highest* temperature mentioned in the publication is 30 degrees Reaumer. To reduce this to Fahrenheit, we must multiply by $2\frac{1}{2}$ and add 32. This gives us a temperature of $99\frac{1}{2}$ degrees Fahrenheit! This may be a heat sufficient to *dry* casks, but it is wholly incapable of *melting* the *pitch* so that it would run like water in the cask and "permeate every pore and interstice in its inside surface" to use the language of the patent. The lowest temperature for the purpose of the patent is 340 degrees.

Prof. Haines, speaking of some experiments he had made, says:

"A sample of pitch was obtained and experimented with. At 150

degrees Fahrenheit it was as tenacious as thick molasses, and did not become sufficiently melted to accomplish the object of pitching barrels short of 340 degrees Fahrenheit. At that temperature it was about as fluid as milk." (Record 105.)

And this was simply a "sample of pitch." But the patented process does not merely deal with the pitch of commerce which has not become *hard and dry* by repeated meltings. At every pitching subsequent to the first, the old coat of pitch in the cask *must be melted by the blast alone.* The specification speaks of the pitch or rosin *in the cask* being melted until it "will readily flow into the pores and cracks or joints in the wood." This requires it to be not merely warmed up to a softened condition, but to be completely and thoroughly melted. It must be of the consistency of water or melted oil. No mere summer warmth or temperature of 100 degrees will do this. It is also necessary to thoroughly dry and parch the surface of the wood, so as to open the cracks and pores, and permit the melted pitch to flow into them, and secure means of adhesion when the pitch became cool. Without something to hold to, it would, of course, easily crack and scale off, or peel away. Therefore, both the language of the patent and the necessity of the case require an intense heat. The degrees of heat mentioned in this publication are absolutely insufficient to accomplish the pitching of kegs and casks. But as if to prevent any one from supposing he contemplated the use of highly heated air, the writer expressly informs us that he provides means for mixing the air, which the translator freely terms the "burning" (!) air, with cold air "in case it gets too hot!"

Defendant's expert witness, Knight, (Record 197,) was asked if he found in the the extract from Der Bierbrauer, 1861, "any description of the operation of the machine which would necessitate the passage of the air blast through the furnace, and the fire," and replied:

"I do find such reference in section five of the copy in the following language: 'In case of superfluous water or steam power a fan being at command can be attached and blow the air through the vessels: hereby the fan draws the air out of a channel which connects with the somewhat roomy ash place of a small pit or shaft furnace which is fed with coke or charcoal whenever warm air is desired; the ash place has an opening from the side provided with a small door to mix the burning air, in case it gets too hot, with the cold air.'"

As this witness depends on this vague language to justify the claim that the publication describes a machine like that shown in his sketch opposite page 195 of the Record, we will look at it carefully, analyze its meaning and compare the macnine which he has found in it with other portions of the article.

"In case of superfluous water or steam power." Artificial means of producing a blast entered so little into the calculations of the writer that he only contemplates their use when the power is superfluous. "A fan being at command." Even a fan was not regarded as a necessity! It might be dispensed with if not at command. Its use was a mere makeshift and depended on convenience! Not so in the Gottfried-Holbeck process. Their fan or blower could not be dispensed with. It was essential to the production of a blast. "Can be attached, and thus

blow the air through the vessels." Attached to what? To the vessel or to the furnace? Defendants say to the small pit or shaft furnace, and Knight in his sketch shows it entering the bottom of the furnace. The article does not say so. The language means attached to the steam or water power. Why otherwise should these powers be mentioned? "And thus blow the air through the vessels." How? By referring to the fourth section of the article we may get some idea. The author there describes the arrangement of a number of casks in a close room with each cask connected with a chimney to secure a draft. If now a fan be located in a room and "attached" to a "superfluous" steam or water power its operation by agitating the air in the room would perhaps assist the draft of the chimney and so accelerate the passage of warm air in the room through the casks. "Hereby the fan draws the air out of a channel." The writer does not say that the fan draws the air out of a furnace, but "out of a channel which connects with the somewhat roomy ash place of a small pit or shaft furnace." This is very important. "Out of a channel." To understand this we will quote the writers description of this "pit or shaft furnace" and this "channel" out of which the air is drawn:

"In the midst of a level space about three feet of earth is dug out in which an economical furnace is placed, its hearth to be sunk like wise in the ground and covered with plates reaching to the wall. Here a smoke pipe is fastened and led with very little elevation to a chimney standing only a few feet distant. The air to be heated is brought from the outside and communicated into a horizontal channel of masonry which first surrounds the smoke pipe and then extends over the plates of the hearth to the stove, but here in the centre of the premises ascends to the height of four or five feet perpendicularly. After heat

ing the stove the air in the entire channel is being warmed, bu more so next to the stove beneath the perpendicular part of the channel; here it will also obtain the highest rising pressure, streaming with a certain rapidity into the premises, while from the outside cold air follows and meets the warmth. The ascending pressure of the hea'ed air is supplemented by the draft of the stove and that of the chimney." (Record 187.)

This, then, is the channel out of which the fan draws the air—a channel or trench sunk beneath the surface and leading up to and around the stove or pit furnace and then rising "surrounds the smoke pipe" which "ascends to the height of four or five feet perpendicularly" in the room so as to produce a draft and cause the air to flow along the passage up around the stove so as to become heated and then come "streaming with a certain rapidity into the premises." To accelerate this "streaming" of the air "into the premises" the fan may be employed if convenient power to operate it be "at command." This air is heated as it passes along the channel by proximity to the stove. It is warmed like the air in a tight room is warmed by a stove. But Knight leaves off this channel in his sketch, places his furnace on the floor and connects his fan with its lower part! In this way he evidently hoped to get a hot blast and make his machine more like complainant's. And the writer further provides an opening "to mix the burning air in case it gets too hot with the cold air." This much is definite. The air is not to be allowed to get "too hot." Now this shows that the writer never contemplated the use of a hot blast or that he supposed that a hot blast could not be applied to wooden vessels. He took express pains to provide against a hot blast.

But it is difficult, not to say impossible, to determine from Der Bierbrauer what kind of apparatus the writer really had in mind. No one can testify positively that it is this thing or that. Even defendant's expert witness, Knight, was unable to say positively what the machine was. His sketch opposite page 195 of the Record is simply imaginative. He admits that his model for Der Bierbrauer machine, which is like his sketch, merely embodies his "understanding or conception of what is described in Der Bierbrauer," (Record 200). He says Der Bierbrauer publication "appears" to describe a machine like his sketch, (Record 194). In no case does he testify that it "does" describe such a machine. While he testified without reservation that other patents described this thing or that, he skillfully avoids a direct statement or committal when he comes to Der Bierbrauer and compromises with his conscience by the equivocal statement that the publication "appears" to describe a machine which he tries to lick into the shape of complainant's. The use of this word "appears" is shown by a careful reading of his deposition to have been deliberate and intentional. He says that he "finds" the Cochrane & Slate device to be so and so, (Record 189), that the Davison and Symington "comprises" so and so, (Record 191), that he "finds" the Devaux device to be so and so, (Record 191), that the Neilson patent "describes" so and so, (Record 192), that the Bovill patent "describes" so and so, (Record 192), that the Cochrane and Galloway patent "describes" so and so, (Record 192), that the Bellford patent "shows" and "describes" so and so, (Record 193), and the Bell specification "describes" so and so, (Record 193, that the Tomlinson Cyclopaedia

"describes" so and so, (Record 194), but that Der Bierbrauer "appears to describe" so and so, (Record 194). He uses this same word in reference to Handbuch fur Bierbrauer (Record 194) and in reference to a certain Russell patent handed him by defendant's counsel, about which, after vainly trying to comprehend its pertinency, he said that it "appears to have no particular relavency to the matter in controversy," [Record 194]! So we say that Mr. Knight was unceriain as to what Dier Bierbrauer did describe and manifested his uncertainty by the guarded language he employed.

Complainants' witness, Graham, who, the evidence shows, is a very skilled and intelligent mechanic, and perfectly familiar with pitching machines and the operation of pitching, swears that the publication does not describe the machine represented in Knight's imaginative sketch. He testifies positively that the "sketch fails to show however, chimney and pipes leading from the casks to the chimney for the purpose of producing a draft through the casks, as described in the exhibit," that, while the sketch shows a furnace located on the level of the floor, "the description calls for a furnace in a pit sunk three feet below the level of the floor," that the sketch fails to show "any horizontal channel communicating with the outside air," and that in his opinion Der Bierbrauer could not have taught any one to make and practice the complainants' invention [Record 90, 95-6].

Mr. Gottfried, for more than forty years a practical brewer, and perfectly familiar with the art of pitching, testifies positively that Der Bierbrauer describes no part

of complainants' invention. that it describes no machine that could be used in the pitching of barrels, and that he "could not have made in any way, from that description, a machine for the purpose of pitching barrels.,' [Record 71-2].

The witnesses, then, differ both as to what is described and as to whether it would operate successfully. We do not think it possible for the Court to read this publication without having to admit that there is ground for such difference. The burden of proof on both these questions is on the defendant's. They have not met its requirements.

But assume there is no difference in the opinion of the witnesses as to what the publication does describe, and that it may be considered as correctly represented in the Knight sketch, would such a machine prove successful and practically operative. We insist that it would not for several reasons.

In the first place, the fan being placed between the furnace and the casks, can, of course, only carry the hot blast into them by suction. It would have to draw from the furnace through itself. The powerful suction necessary to accomplish the result "to the same practical extent" as in complainant's invention, would carry along with the blast a continual stream of cinders, ashes and pieces of coal, which, passing through the fan, whose wings or blades must, to cause the suction, fit as close and accurate as possible to the case, would in a very few minutes either stop up and clog the revolutions of the

fan, or cut and break it to pieces. To any one who has ever examined a suction or force blower, or fan, to see the closeness and nicety with which the wings are adapted to the case, the above statement will appear too true for contradiction. Cinders, ashes and particles of coal would almost immediately stop or destroy the fan. The blast in addition being, as the evidence shows, admitted into the cask at a very high temperature, would, in passing through the fan, almost immediately heat it red hot, and cause it to twist or warp out of shape. It would also melt the soft metal always used to line the journals. We do not think it would be possible for these reasons, if there was no other, to use a fan in the position shown in the Knight sketch.

In the next place, the fan drawing or sucking the air from the top downward. the furnace being open at the top, it is obvious that the fire would have to be started from the top of the furnace. If started at the bottom, the fan would draw it away from the fuel, and prevent its igniting the body of the fuel above it in the furnace. Started, as the fire would have to be, therefore, at the top, the fan would draw it constantly downward and away from the top, so that as fresh coal was added to the top, the only place at which fuel could be inserted, it would not become ignited, as the fire and heat would be constantly drawn away from it. Under the tremendous heat in the furnace, the supply of fuel which this "small" pit or shaft furnace would hold when the operation was commenced, would in a few minutes be exhausted, and the fire in the furnace would be out. There would simply be the furnace filled with unignited coal which, as it was poured in at the top, had followed the retreating

fire. It would have no more effect than fuel placed behind a retreating prairie fire driven before a powerful wind. This fact alone is sufficient to prevent it being practically operative to the same extent as the complainant's in the pitching of a large number of casks and kegs where the operation required hours instead of minutes. The fire in the complainant's machine, on the other hand, is started at the bottom, and its tendency would be constantly toward the top. The blast would drive it upward. The fuel poured in at the top would immediately ignite, so that the fire could be kept burning all day without cessation.

All these considerations show that Der Bierbrauer, according to defendant's translation, fails to describe a machine whose construction, character and operation can be clearly ascertained, and that if it describe a machine like the one shown in Knight's sketch, it would be deficient, impractical and inoperative.

The law is settled beyond dispute that a publication cannot operate to invalidate a patent unless it show and describe the very invention patented in such full, clear and exact terms, as if filed in the patent office, it would have served as the descriptive part of the specification of the patent.

In *Seymour* v. *Osborne*, 11 Wall. 555, this Court says:

"Patented inventions cannot be superseded by the mere introduction of a foreign publication of the kind, though of prior date, unless

the description and drawings contain and exhibit a substantial representation of the patented improvement, in such full, clear and exact terms as to enable any person skilled in the art or science to which it appertains, to make, construct and practice the invention to the same practical extent as they would be enabled to do if the information was derived from a prior patent. Mere vague and general representations will not support such a defense, as the knowledge supposed to be derived from the publication must be sufficient to enable those skilled in the art or science to understand the nature and operation of the invention, and to carry it into practical use. Whatever the particular circumstances under which the publication takes place, the account published, to be of any effect to support such a defense, must be of a complete and operative invention capable of being put into practical operation."

We submit that no one can read defendant's translation of Der Bierbrauer and say that it meets the requirements of this decision!

From all the foregoing it follows that the publication in Der Bierbrauer must fail as an anticipation because it is lacking in the following essentials of complainant's process:

It does not describe a method of applying a "*highly heated*" blast to the casks capable of melting pitch, but only of about 99 degrees Fahrenheit.

It does not describe a blast from which the oxygen which causes burning *had been extracted* by passing *through* the furnace fire, but rather a pure air current heated by proximity to a stove or furnace.

It does not describe a blast that was applied under *blast or in a rapid and concentrated form*, but air passing through the casks from the draft caused by their connection with the chimney.

It does not describe a blast produced in a *closed* furnace which, in being heated, *fed the fire that produced it*, but simply composed of the air warmed as it passed the furnace in the channel,

It does not describe a blast produced by a furnace located *between the blower and the vessel to be pitched*, but, according to Knight's sketch, one with the fan between the furnace and the cask.

It does not describe the process of *pitching barrels or heating them for pitching*, and says not one word about such things.

It does not describe any "highly heated blast," any machine for producing a hot blast or any means of forcing a hot blast through casks, in such *full, clear and exact terms* as to enable any one skilled in the art to construct the machine and apply the blast to the pitching of barrels. If Gottfried and Holbeck had filed defendant's translation of Der Bierbrauer as their specification, the Office would have rejected their application for indefiniteness!

It does not describe a machine, even if we accept Knight's sketch of what it "appears" to describe, that could be *practically operated* in the pitching of barrels and casks.

In short, as said by Judge Gresham [Record 15), "the German publications are vague and uncertain and describe no machine capable of practical and successful use by brewers for pitching casks and kegs."

THE COCHRANE AND SLATE PATENT FOR DRYING MOLDS.

As the Gottfried-Holbeck patent is for a *process of pitching barrels*, we do not see how a patent for the drying

of moulds to be used in making various castings can have any bearing on the question of its validity. But as defendant's counsel on the argument attached so much importance to the Cochrane and Slate patent as to induce Judge Gresham to give it weight in his first opinion, we may be excused for giving it somewhat extended consideration.

In the first place, it is to be observed that we do not have the whole patent before us but only an extract [Record 157]. Whether the detached fragment of the patent fully represents the device we cannot tell, but as defendants introduced it they undoubtedly consider it as showing everything favorable to their side of the case. and therefore cannot complain if we consider the portion introduced as fully illustrating the invention.

The patent was for the "manufacture of iron pipes or tubes," like water pipes. In the manufacture of such pipes Cochrane and Slate used molds which needed to be "dried." To dry them they used a furnace and forced a stream of air through the fire and into a chamber in which the molds were placed. The furnace is located above the ground and the molds are arranged in a pit or excavation beneath the surface. The drawings are opposite page 157 of the Record.

It is to be observed that no special importance was attached to this patent in the taking of the evidence. Defendant's expert, Mr. Knight, when asked, on cross and re-direct examination, what he considered the nearest approach to the Gottfried-Holbeck invention, mentioned the Davison and Symington patent, Der Bierbrauer, and Handbuch fur Bierbrauer, *but does not mention the Cochrane and Slate patent!*

Approaching the subject a little closer we find that the blast is not described or shown as directed *into* the vessel to be dried! The specification in describing the operation of the machine, and we quote it *all*, says:

"A mould in the mould box is placed in position, as shown, and the drying apparatus is lowered *over* the same; the blast pipe is then inserted and the products pass in the direction of the arrows, and the mould will become quickly dry; and, in like manner may similar apparatus be constructed to dry two or more moulds at the same time." (Record 157).

Looking at Fig. 9, the one from which Mr. Knight said he made his sketches [Record 190], we find that the discharge pipe or passage from the furnace *ends at the top* of the mould box. This is what is meant when the specification says "the drying apparatus is lowered *over* the same." In a word, this discharge passage just conveys the products of combustion into the large oven or retort in which the molds are placed, and does not carry the blast *into* the molds as complainant's discharge pipe carries the blast *into* the cask. And so the specification says the apparatus may be used "to dry two or more moulds at the same time." Of course. With the mould box or oven of sufficient size, one could place any number of moulds in it and dry them together, as a number of biscuits in a pan are baked in one operation. The reason the discharge pipe is not inserted *into* the moulds is that the whole mould—the outside as well as the inside—must be dried. And so the dischage pipe is made large enough to distribute the heat and apply it to all portions of the mould at once.

Another reason for applying the heated air in this device in a greatly expanded form instead of a blast, will be

apparent on considering the object these parties had in view. It was the *drying* of clay, sand or earthen moulds used in making heavy iron castings. These moulds are made of wet or moist clay, etc., and must, of course, be dried before the molten iron comes in contact with them; otherwise the heat and steam caused by the molten metal would burst and completely destroy them. Now, in drying these moulds, the heat could not be applied at a very high degree of intensity; it *must* be a mild heat. At a high degree of temperature, the clay or sand moulds would be immediately cracked. This is shown from the practice universally, and from the earliest times, in use among brick-makers, crockery-makers, etc., which is to first subject their brick, crockery, etc., after it is placed in the kiln. to a mild, constant heat for several days, until it has become thoroughly and completely dried, before they dare apply an intense heat. In making these statements, we address ourselves to the common knowledge of all intelligent men. For these reasons, Cochrane and Slate, in making their device, provided simply for a mild heat, which was all their object required or could stand.

But if we press the matter a little further we will find by measurement that the exit or discharge passage of the Cochrane and Slate device, as shown in Fig. 9, to which the witness Knight refers, is exactly eighteen time the diameter of the entering pipe—not eighteen times as large in *area* but in *diameter!* Thus, if the entering pipe be one inch in diameter. the discharge pipe will be eighteen inches, and if the entering pipe be two inches in diameter, the discharge passage will be thirty-six inches! Both of the passages are shown as round.

To ascertain their areas we must multiply the squares of their respective radii by 3.1416.

If we take the diameter of the entering pipe to be two inches, to illustrate our point, we will have a radius in the one case of one inch and in the other of eighteen inches. The squares of their respective radii would be one and three hundred and twenty-four. If we multiply these squares we have 3.1416 inches as the aera or superficial surface of the entering pipe and 950.6784 inches as the aera of the discharge passage. By dividing we find that the aera of the discharge passage contains the area of the entering pipe three hundred and twenty-four times. Hence the speed of the entering air is *three hundred and twenty-four times as great as the speed of the discharging air*, less the retarding increase in the volume of the air caused by its expansion in the fire. This expansion is at the rate of two thousand and twenty-eight one millionth of its bulk to each degree of Fahrenheit [Encyclopedia of Chemistry, Booth. p. 269]. If the Cochrane and Slate blast were heated to 525 degrees the bulk of the air in the furnace would be doubled, which would be the same as diminishing the discharge passage one-half. There would still remain, therefore, about one hundred and sixty-two times the space for the air to pass out that it had to enter. The speed of the entering air would, therefore, be about one hundred and sixty-two times as great as that of the discharging air if the temperature of the air were raised to 525 degrees.

We do not see how it could be more conclusively demonstrated that the heated products of combustion in the Cochrane and Slate device pass out in a slow, mild and expanded form, and not in a rapid, intense, compressed

and concentrated blast, as in the Gottfried and Holbeck invention. They would resemble the heated gases rising from a chimney rather than a blast, which Webster defines to be "a forcible stream of air from an orifice." It is, of course, too plain to need proof that the more concentrated the blast at the moment of its application, the greater its heat and efficacy; but this fact is stated by Prof. Haines (Record 106).

By looking at Fig. 10, which is a sectional view taken at A B in Fig 9, the Court will see that the discharge passage along which the heated air is conducted to the moulds *is larger in diameter and superficial measure than the fire chamber itself!* No wonder this discharge pipe, if this term can be applied to a passage larger than the furnace, is *not* inserted *into* the moulds, as the Court below at first seemed to suppose. It is too large for that. The specification says that "a mould in the mould-box is placed in position, as shown, and the drying apparatus is *lowered over the same.*" It is as though one made the discharge pipe of complainant's apparatus so large that he could put the keg or cask inside it! By lowering the drying apparatus "over" a damp earthen mould it could of course be dried; by lowering it "over" a keg or cask it, also of course, could not be heated for pitching.

But without all this elaboration, a sufficient objection to this Cochrane and Slate device is that it applies its hot blast to the drying of clay moulds which were *incombustible!* From observing the effect of the heat on incombustible clay moulds, no one would think of applying the blast to the heating, at an intense heat, of *combustible wooden vessels* containing such a highly combustible sub-

stance as *pitch*. It would never suggest the complainant's invention.

No wonder then, that Judge Gresham, in his second decision, after he came to understand the Cochrane and Slate patent, and after saying that undue importance had been attached to it, said:

> **"It is sufficient to say of the Cochrane and Slate device, without again stopping to describe it, that without material changes in its construction or arrangement it cannot be made to produce the same useful results as are produced by the complainant's device."**

It is plain from all the foregoing, that the Cochrane and Slate patent fails to anticipate the Gottfried-Holbeck process in several essential particulars.

It does not describe or show a furnace *producing a blast of great intensity of heat capable of rapidly melting the hard pitch* remaining from former pitchings.

It does not describe a heat applied *under blast or in a rapid and concentrated form.*

It does not describe a blast directed *into* the vessel or thing *to be operated on.*

It does not describe any process for *pitching* kegs or barrels or *heating them for pitching.* It does not hint at such a thing. It applies no heat to the interior of a *wooden* vessel or suggests it.

From reading the specification or observing the operation of the machine in drying clay moulds, no one could get the idea of applying a deoxygenized and "highly heated" blast to the heating of *wooden* vessels whose combustible character was greatly *aggravated* by the presence of *pitch.*

It describes nothing that could possibly be held to be an *infringement* of the Gottfried-Holbeck patent.

We may, therefore, relegate the Cochrane and Slate patent to the obscurity from which the zeal of the defendant's counsel has brought it.

THE SMELTING FURNACE BLASTS.

But little time need be spent on the Devaux and other patents for driving a hot blast into blast furnaces and for similar purposes. Sketches of blast furnaces may be seen opposite page 149 and 151 of the Record. Nor does the Pewterer's hot blast for soldering tin pans meet the case. This device is shown opposite page 170 and is well described by Graham on page 81. They were probably introduced to show that it was common to produce hot blasts by driving a current of air through a fire in a closed furnace and that Gottfried and Holbeck were not the first to produce a deoxygenized blast! *We never supposed the contrary.* But none of these devices taught the world that *wooden* vessels containing a *highly inflamable* substance could be heated by "highly heated blasts" approximating 2000 degrees Fahrenheit, that such a blast *would not destroy or impair the adhesive qualities* of the pitch, that it would not combine with the pitch or gases of the wood and *produce an explosive*, that it would be practically *uninjurious to the fiber* of the wood, and other, things essential to the utility, success, and application of the Gottfried-Holbeck process. We shall, therefore treat all of these patents and devices—as defendant's witness Knight did when he said that the Davison and Symington patent "most nearly embodies the complain-

ants invention"—as of minor importance, and not sufficient as defenses if others are not.

IMAGINATIVE SKETCHES.

Mr. Knight has illustrated his testimony with a number of "sketches" showing how this device or that could be applied to the pitching of casks. *These sketches do not represent real things.* They do not show machines that were ever *actually used in pitching.* We hope this will be distinctly understood. These imaginative works of art appear at page 190, where Knight has "adapted" the Cochrane and Slate patent to pitching barrels, opposite page 191 where he has "adapted" the Devaux machine, opposite page 192. where he has "adapted" the Bovill patent, on the next page, where he has "adapted" the Cochrane and Galloway patent; opposite page 193 where he has "adapted" the Russel patent; and opposite page 195 where he has sketched his "understanding or conception" of Der Bierbrauer. How easy it is to "adapt" old devices after we are taught!

THE QUESTION OF DAMAGES.

As before said, the Master and the Court, Judge Woods, awarded the complainant $4,215.95 against the Crescent Brewing Company, $5,460.45 against the Gaff estate and Langtree, and $700 against Hack and Simon. These amounts are awarded as *damages* and not as profits.

They were awarded after the fullest investigation and argument, both oral and printed. Eighty-six (!) exceptions were filed to the Master's report, and they were argued before Judge Woods in a brief of fifty-eight pages. Every point was raised, every argument urged, every appeal made by the "eminent patent counselors"—to use the designation employed by the Brewers Association—representing the defendants. Yet both the Master and Judge Woods held that the complainant was entitled to the amounts named.

In view of the fact that this Court is relieved, by Act of Congress, from reviewing the justice or injustice of verdicts and judgments under $5,000, in other kinds of litigation, and that these three cases are the only ones in existence or that can ever be brought, and that the patent had expired before the decrees were rendered or the appeals were taken, so that it is simply a controversy between some rich brewers and this patentee about a few thousand dollars, which involves no injunction and affects no other interests, we submit that this Court, if it conclude that complainant's patent is valid, should require a positive showing, amounting to demonstration, that a method of accounting has been pursued that cannot be sustained on any legal grounds, before they reverse these cases on the question of damages. We further submit that this Court should be slow, under the circumstances, to enter upon disputed questions of fact and sift the depositions of some thirty witnesses as to the value of the invention and like matters after this had been done by both the Master and the Court below. All these

disputed questions of fact should be treated as settled as much as if the facts found in the Master's report and refound in the conclusions of the trial Judge were the findings of a jury. Otherwise this Court will never get through performing the drudgery that Masters are appointed to do for the relief of the Court.

But on the part of the complaint we seek to avoid no investigation into any branch of the case, and so shall make a full presentation of the theory on which the evidence on the question of damages was taken on behalf of the complainant, and then considered the sufficiency of the evidence to sustain the finding of the Master and the Court.

The theory that the complainant proceeded upon was that if no established royalty or license fee existed then it was competent to introduce general evidence of the invention. This theory, which is based on the plainest principles of justice, has been approved by this Court in *Suffolk Company* v. *Hayden*, (3 Wall. 320), where it is said:

"There being no established royalty or license fee in the case, in order to get at a fair measure of damage, or even an approximation to it, general evidence must necessarily be resorted to. And what evidence could be more appropriate than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results."

This is the law of this Court as well as of common sense. We satisfactorily established the fact that the Gottfried-Holbeck process was worth more than 15 cents a keg,

$1.00 a cask under 30 barrels, and $1.50 a cask over 30 barrels, each and every time they were pitched, over the old methods of pitching including the Siebel pan. *Suffolk Company* v. *Hayden* says this evidence is proper, and highly proper, "to get at a fair measure of damage" if there is no "establishedpatent or license fee" under the Gottfried-Holbeck patent that could properly be applied.

The complainant has fully and frankly explained all the transactions and sales which he and his co-patentee ever made under the patent. When it was first issued they thought they would manufacture and sell machines and build up a manufacturing business. They supposed the brewers would respect their rights and buy their machines from them. Accordingly they exhibited their process at one or two brewers' conventions, and sent out several thousand circulars (Record 70), like the one on page 131, addressed to brewers by name and sent through the mail. Their efforts to introduce the invention by selling machines so far failed that they transferred the patent in 1870 to the Baltimore Pitching Machine Company, a corporation organized by some parties in Baltimore who thought they could handle the invention to profit. But they failed and in 1876 or '77 Gottfried and Holbeck secured control of the title of the patent again and began suits of which these three alone remain. Up to 1877 Gottfried and Holbeck had sold about twenty machines of the two or three thousand then in use (Record 214). *They had sold about one machine in everg hundred or hundred and fifty in use!*

But that the Court may have the evidence on these

matters fairly laid before them we will quote from Mr. Gottfried's testimony:

"After our patent was granted we took pains to introduce our invention to the trade, and advertised it in brewers' papers and circulars, and also exhibited it at brewers' conventions. My co-patentee, Holbeck, manufactured machines, and occasionally succeeded in selling a few. We put the price low, making ourselves a profit of about $100 per machine. We expected in this way to be able to supply the trade with our invention and build up a large business in manufacturing machines, but after a time we discovered that the brewers would not respect our rights. A great many of them were using our invention, but to our claims they would make no answer or dispute the validity of our patent. From one pretext or another they kept refusing to pay us anything although they all admitted the great value of the invention. Finally, as our patent was fast expiring, we saw no other way than to commence suits, which we did against a number of the largest brewers in the West. These suits resulted in decisions in our favor. Since these decisions in our favor the brewers for the first time began to respect our rights, and many of them have settled with us." (Record 210).

"We have sold about twenty machines between the time the patent was issued and 1876 and 1877. . . . . The first time the brewers commenced to recognize my rights was after Judge Dyer's decision, December 1, 1879. . . . . I have not sold any machines nor received any money from Holbeck for selling machines after December 1, 1879. . . . . Our patented invention has been used in about 3000 breweries without having paid for the right to use it." (Record 214).

This, then, represents the extent the patentees were able to sell machines—about 20 in 13 years—a little more than one machine a year! And the Baltimore Company with the high sounding name never manufactured more than "about half a dozen machines," never "paid me a cent and the Company busted up" (Gottfried, Record 216). In fact Gottfried had to pay one of these Balti-

more parties $5000 to get the title back (Record 57, 326). They were not a success at selling machines, but they knew how to tie up the title to a valuable invention and bleed the patentees to get it back!

It may be contended that the sale of these twenty machines in the first thirteen years of the term of the patent established a royalty. We think it clear that they did not and could not under numerous decisions. They were not at a fixed uniform rate. They were not made at a time when the brewers recognized that the patentees had any rights. They were with parties who would simply pay what it would cost them to buy or build a machine. The patented privilege, the exclusive right, did not enter as a factor into the consideration. The price varied until the patentees could not sell machines at any price. Gottfried says:

"When we first sold the machine we had $100 profit per machine, but after a time, when they commenced making machines in most every town, the price was cut down to $80, and afterwards to $60 and $50—the profits I mean. Then came a number of years when we could not sell any machines at all on account of the prices being cut down to manufacturing prices—the cost price." (Record 215-16).

The insufficiency of these sales to constitute an "established royalty or license fee" is so obvious, that comment seems out of place. But suppose Gottfried should claim in a suit against an infringer that he *had* an *established* license fee and cited this evidence! The defense would point him to the language of Mr. Justice Hunt, in *Black* v. *Munson*, (2 Banning & A. 625). where he says:

"No price can be said to be fixed or royalty established where the

patentee *varies* his price according to the courage or ability to resist of the infringer, or where there are *other* circumstances showing the *absence of a fixed and established fee.*"

As is well known to this Court, many decisions could be cited to the effect that sales, to establish a license fee as a measure of damages, must be sufficient in number, uniform in price, and under circumstances which constitute them fair indications of the value of the invention, and that straggling sales, at variable rates, and under circumstances which deprive them of the power of indicating the value of the invention, cut no figure. Such elementary sense needs no body guard of authorities.

It is so clear that these sales of machines, less than one per cent. of the number used, afforded no proper criterion of value, that no Court or Master has relied upon them in the assessment of damages. In these cases the Master in discussing this matter said:

"The fact that brewers, prior to Judge Dyer's decision, were unwilling to recognize the validity of the patent placed the patentees at a great disadvantage and rendered it impossible for them to deal upon equal terms with the brewers in selling the machines. The effect of this disregard of the patentees' rights was to cut down the profits, and, as Mr. Gottfried says, then came a number of years when they could not sell any machines at all, and they were able to sell only about twenty machines, although it is in evidence that 3000 brewers adopted and used the invention within the twelve or thirteen years after the patent was issued. . . . . While the patent was considered invalid it is improbable that the purchasers of any machines made by Holbeck gave him any more than the price of labor and material represented in the machine, with manufacturers' profits, and it is not likely that the inventor's royalty entered into the selling price of the machine. The fact that the sales made by Holbeck were very few and made at vari-

able rates for the purpose of introducing the invention is to be considered. He seems to have offered his machine at almost any price, but the brewers, disregarding the patent, preferred to manufacture their own machines, and he was not able to sell to more than one out of every hundred and fifty that presently adopted the invention, and then came a number of years in which no machines could be sold at all. I am unwilling to adopt what I consider a narrow and illiberal rule, which would limit the patentee of an important invention in the amount of his recovery to rates which he was compelled to accept under such circumstances. The owner of a valuable patent should be encouraged to introduce and put his invention into public use; and to hold that this patentee should now be punished for his early efforts to introduce his invention would, in my judgment, be very unjust. . . . . The evidence does not show that the defendants in these suits knew of the sales by Gottfried and Holbeck or that they were in any way injured or misled by them." (Record 20-1).

But it was argued below that if these sales, owing to their varying price and straggling occurrence, afforded no proper criterion, as an established royalty, to measure the damages, a proper royalty or license fee was found in the agreement contained in Gottfried's assignment to Holbeck on the formation of that expensive swindle called the Baltimore Barrel Pitching Machine Company which cost Gottfried $5000 cash before he could get his title back. This agreement is dated December 19, 1870, and is:

"In consideration of five dollars to me in hand paid, and in consideration of a royalty of ten dollars per machine to be paid to me by John F. T. Holbeck, of the City of Chicago, for every machine for pitching barrels manufactured by said Holbeck, or any associates that he may have, under the letters patent of the United States granted to me and the said Holbeck, number 42,580, dated May 3, 1864, I do hereby sell, assign, transfer and set over to said Holbeck and his assigns, all my right, title and interest in and to the said letters patent and the

invention secured thereby, reserving to myself the right to revoke this assignment if the royalty herein reserved be not paid." (Record 48).

Here is a royalty of ten dollars a machine! And so counsel for defendants labored through pages of printed brief to induce the Court below to apply this rate.

Gottfried was *never paid a cent under this agreement* (Record 216,) and, as before said, was compelled to pay $5000 to clear the title from the complications that arose from this transaction. To punish him still further by reducing his recovery to practically nominal damages by reason of it, would afford great encouragement to patentees to enter into arrangements looking to the cheap introduction of their patented processes! Gottfried afterwards tried to revoke this agreement, and filed a paper in the patent office to that effect. (Record 51).

The Master in discussing this matter said:

"I do not think the agreement between Gottfried and Holbeck made at the time the Baltimore Company was organized, by which Gottfried was to receive ten dollars for each machine, has any application in determining or fixing the rate of recovery; that was a personal agreement between two patentees, themselves old friends and joint inventors, and one which did not affect their rights as against the public. This arrangement was made for the purpose of assisting Holbeck in his efforts to introduce the invention. Besides this, nothing was ever done under it, and it was revoked in 1875. It was held in *Bussey* v. *Excelsior Manufacturing Company* (5 Banning & Arden, 135), that a recinded license or contract cannot be allowed a controlling influence in fixing or determining the patentees' right of recovery." (Record 52).

In considering the sales of machines, above discussed,

and this paper royalty of ten dollars a machine, Judge Woods said:

"It is shown that soon after the issue of the patent the patented machine was offered to the public, and in some instances sold at prices [profits] varying from $100, at first, to $80, $60 and $40, at later dates; and that in a contract between the patentees, whereby one of them was to manufacture and sell the machines, it was stipulated that the other should be entitled to a royalty of $10 upon each machine. While I am of the opinion that these facts constitute competent evidence against the plaintiff in respect to the value of the invention, being in the nature of admissions, I do not agree with counsel for the defendants that the plaintiff is concluded thereby, since sales were not made in such numbers and at such uniform prices as to constitute an established license fee."

But it was further argued that the agreement made by Gottfried, May 1, 1879, afforded a basis for estimating damages. This agreement was executed at the same time and on the same day Holbeck assigned all his interest in the patent to Gottfried—May 1, 1879. The assignment appears on page 59 of the Record and the agreement on page 411. The assignment though reciting a consideration of one dollar was for a consideration of $10,000 and a license back to make and sell machines.

Mr. Gottfried in speaking of this license said:

"His license was a part of the purchase money. I bought his interest out for ten thousand dollars and he insisted upon having a license to manufacture machines: so that the license was a part of the purchase money, without this he would not have sold me for ten thousand dollars; he would have asked me more for his interest." (Record 228).

This license, which with the ten thousand dollars constituted the price Gottfried paid for Holbeck's interest, provided that Holbeck should pay "the same amount that he has been paying," and then says:

"This license was made and accepted upon the following express condition: That in no case shall any authority to use any pitching machine under or by virtue of this license extend to, cover, include, or protect any such machine or the purchaser or user of any such machine that may directly or indirectly be sold by the party of the second part to any person or companies liable as infringers of said letters patent, and any such person or company shall take such machine subject to the condition that their liability for past infringement shall remain unimpaired and their use of such machine be considered as an infringement of said patent the same as the use of any other infringing machine." (Record 411).

This divided the brewers of the country into two classes —those who were *infringing*, and those who had *settled* or who had *never used* a machine—and confined Holbeck's sales of machines, if he could make any sales, to the latter class. It was meant to prevent those brewers who had been openly defying Gottfried's rights from destroying their infringing machines and buying one from Holbeck until they had settled. It was a distinct and express limitation on Holbeck's power to sell, as much as if it had said that he should not sell to Smith, Brown or Robinson. It could not, in such a case, affect the liability of Smith, Brown or Robinson. As to them it would be an utterly irrelevant paper. So as to these defendants and infringers who were expressly excepted from Holbeck's power to sell. The instrument which excludes them confers no rights upon them.

But this license was given as a "part of the purchase money." Holbeck's probably thought the litigation would drive the brewers to purchase machines from him, and, that even after the patent had expired, his little shop would turn out a good many machines, and so he "insisted

upon having a license to manufacture machines." And at this time Gottfried had no certainty that the patent would ever be sustained and then only at the end of bitter and expensive litigation! Nothing but a firm confidence in the honesty and value of the invention could have induced him to pay Holbeck ten thousand dollars! And when Judge Dyer's dreision was announced, December 1, 1879, "when the brewers for the first time commenced to recognize his rights," he declined to accept the per cent. reserved in this license of May 1, 1879, and released it entirely. (Record 230).

The Master, in speaking of this license, after considering the unfortunate Baltimore experiment, says:

"Nor do I think that the license given back to Holbeck, at the time of the sale to Gottfried of his interest in the patent, was different in its effect. It was made while the patent was still considered invalid, and it was expressly limited to operations with brewers who had never infringed the patent or who had settled for their infringements, nor does it appear how many, if any, machines were sold under it or at what price, or that Gottfried was in any way connected with the sale of them. Gottfried says that he supposed, but did not know and could not tell at what price they were sold after the title came back from the Barrel Pitching Machine Company." (Record 22).

And Judge Woods evidently regarded this license as wholly insufficient to afford a measure of recovery as in disposing of the exceptions to the Master's report he does not even mention it!

We have now considered every transaction down to December 1, 1879. On this day Judge Dyer sustained

the patent in the first decision that was allowed to stand. *For the first time* Gottfried was in a position to meet the brewing trade on the ground that he *did have a property right* that was entitlad to enter as an *element* into their dealings with him. And thence forward his every action would count in the final adjustment of his rights!

Judge Dyer's decision, December 1. 1879, marks an era in the history of this patent. His sustaining the patent did not end opposition. Far from it. The defendants in these cases have bitterly contested the validity of the Gottfried-Holbeck patent and assailed the correctness of that decision with unusual venom. In the third paragraph of their answer, filed *more than a year after* Judge Dyer's decision, filed with a *knowledge of that decision* which was set out in the bill, they "deny that said patent is good and valid and deny that the public generally acquiesed in the validity thereof," (Record 8). And the United States Brewers Association nearly one year after that decision sent out a circular to the trade advising them that "a consultation was held among the attorneys" and that the result was "a strong opinion expressed that if a proper case be selected and eminent patent counselors be engaged, such suits would be decided against the patent claims," (Record 255). So that these defendants and the brewing public generally continued to insist that Gottfried *had no property* and refused to treat with him on the basis of property rights entitled to respect. But still many brewers did acquiesce, and so from this decision on Gottfried cannot ask any special consideration. We ask none for him.

After this decision Gottfried was met with the question, How will you deal with brewers who recognize your rights and offer to settle? He decided this question as any sensible man would have done. He fixed certain figures at which he would grant releases and licenses. But most of the brewers had kept no account of the extent of their pitching. They *could not tell* how many kegs, barrels and casks they had pitched. It was impossible, therefore, to settle with such parties on the basis of so much per keg, barrel and cask. But their returns to the Revenue Department showed how many barrels of beer they were selling per year. Here was something tangible and afforded one means of adjustment. But some brewers *could* ascertain how many kegs and casks they had pitched and it was practical to settle with them on the basis of actual work done. So that two methods of settling—one on the amount of beer *being sold*, and the other on the number of kegs and casks *actually pitched*—had to be adopted. One of these Gottfried termed his *gross or lump* settlements, and the other his *keg and cask* settlements. When a brewer desired to settle and could not ascertain the number of kegs and casks pitched, Gottfried would give him a full release and license on payment of $100 for each 1000 barrels of beer he was making. If he were selling 10,000 barrels the amount would be $1,000. If he were selling 50,000 the amount would be $5,000. These were his *lump* settlements. If he could ascertain the number of vessels which he had pitched by the process he was charged 15 cents per keg for each pitching, $1.00 per cask *under* 30 barrels for each pitching, and $1.50 per cask *over* 30 barrels for each

pitching. These were his *keg and cask* settlements.

We will just quote Gottfried's explanation of his manner of dealing with these two classes of brewers after Judge Dyer's decision:

"Q. 5. In making your settlements where you have said you had not been furnished with information as to the number of kegs and casks pitched, which you have termed your settlements for gross amounts, state whether you had any general rule by which you arrived at the amount that you asked. If so, state what such general rule or basis was. A. The general rule for making gross settlements was the number of barrels which they sold during the revenue year, and the general amount was $100 for each 1,000 barrels.

Q. 6. You have stated that where the brewers have furnished you information of the number of kegs and casks which they had pitched or intended to pitch on an infringing machine you charged them so much per keg and cask. State whether you did that in all cases. A. Yes; I did in *every* case. I have not accepted less than these figures where brewers have furnished me statements showing the amount of pitching done.

Q. 7. State whether you had any royalty or license fee established during the life of the patent for the use of the invention, if so, state what it was. A. I had a regular rate of royalty or license fee established under the patent, which I depended upon entirely for my compensation, namely, 15 cents a keg or vessel smaller than a barrel, one dollar a cask holding thirty barrels or less, and one dollar and fifty cents a cask holding over thirty barrels, for each time such kegs or casks have been pitched. I have established these figures as my royalty or license fee because, in my opinion, which is the result of large experience in these matters as a practical brewer, they are reasonable, and in many cases less than the actual benefits; and as they were accepted and acted upon by brewers to the extent and manner above set out, I feel confirmed in the reasonableness of these figures and justified in saying that I had an established royalty or license fee." (Record 212-13).

In pursuance of this plan of dealing with brewers,

adopted at the time of Judge Dyer's decision and steadily adhered to ever since, Gottfried made many settlements either for gross sums—at the rate of about $100 for each 1,000 barrels of beer sold—or for a certain rate per keg or cask—15 cents per keg, $1.00 per cask under 30 barrels, and $1.50 per cask over 30 barrels—but *all* of his settlements were made at *one or the other* of these rates, except where special circumstances demanded special rates. To fully present this course of dealing we will quote from his testimony:

"Since these decisions (by Judge Dyer) the brewers for the first time began to respect our rights, and many of them have settled with us. Most of these settlements have been for a gross sum, but wherever brewers have made a statement showing the exact extent of their infringement I have settled with them on the basis of fifteen cents a keg or vessel smaller than a barrel; $1.00 a cask holding less than thirty barrels, and $1.50 for every cask holding over thirty barrels for every time they were pitched. Some of the settlements for *gross* sums were as follows:

J. & C. Frey, Fond du Lac, Wis., brewing between sixteen and seventeen hundred barrels of beer a year, paid me $200.

J. Heilman, La Crosse, Wis., brewing between twenty-two and twenty-four hundred barrels of beer a year, paid me $250.

Bechand Bros., Fond du Lac, Wis., brewing between twenty-five and twenty-six hundred barrels of beer a year, paid me $300.

Henry Rahr, Green Bay, Wis., brewing between thirty-four and thirty-five hundred barrels, paid me $350.

Charles E. Young, Bay City, Wis., brewing between thirty-eight and thirty-nine hundred barrels, paid me $400.

Fred. Sehring, Joilet, Ill., brewing between forty-two and forty-three hundred barrels, paid me $500.

Martz Bros., Detroit, Mich., who brew between fifty-nine and sixty hundred barrels, paid me $600.

Metzler Bros., Brooklyn, N. Y., brewing eight thousand barrels a year, paid me $800.

Anton Mayer, Terre Haute, Ind., brewing about eleven thousand barrels of beer a year, paid me $900.

The Greenaway Brewing Co., Syracuse, N. Y., brewing twelve thousand barrels of beer a year, paid $1,125.

Albert Ziegle, Buffalo, N. Y., brewing between twenty and twenty-five thousand barrels of beer, paid $1,725.

Some of the Boston brewers paid me in settlement $5,500.

Some of the Milkwaukee brewers paid me in settlement $10,000.

Some of the New York brewers paid me in settlement $16,600. That settlement closed out the cases pending there and included only a few of the brewers.

These are some of the settlements for gross amounts, and they were made after suits had been commenced, but in most cases without further litigation, and when made before the expiration of the patent they included licenses for the future use of the invention until the patent expired.

Where brewers have made statements showing the number of kegs and casks pitched I have settled with them on the basis of so much a keg and cask for each time they have been pitched. Some of the settlements on the royalty basis are as follows:

Jung & Borchert, Milwaukee, Wis., made a contract on the royalty basis, Jan. 10, 1880, and they reported April 24, 1880, for the time from December 25, 1879, to April 1, 1880, showing that they had pitched 160 kegs and 41 casks amounting to $65, at the rate of 15 cents a keg and $1 a cask. They had no casks holding over 30 barrels. They paid me this $65. The firm was organized December 25, 1879. They desired to settle for the future up to the expiration of the patent, and we agreed upon $110 as the sum to which the pitching would amount, and they paid it and I gave them a paid-up license.

Hill & Piez, Newark, N. J., reported April 6, 1880, that they had pitched with an infringing machine 1,200 kegs and 161 casks, which amounted, on the royalty basis, to $341. They offered me this amount and said if I would not receive it they would tender it into court, and I preferred to receive it. Then they made an estimate for the future pitching during the life of the patent, which would amount to less than $200, and finally offered me $159, which I accepted and gave them a paid up license.

P. Lieber & Co., Indianapolis, Ind., reported that they had pitched 450 kegs and 82 casks, at the regular rate of 15 cents a keg and $1 a

cask, which they paid. They did not need any license for the future, as they bought a machine from Holbeck.

The Genessee Brewing Company, of Rochester, N. Y., reported that they had pitched 600 kegs, 70 casks holding less than 30 barrels, and 208 casks holding over 30 barrels, which they paid at the regular rate: for the 600 kegs, $90; for the 70 casks, $70, and for the 208 larger casks, $312. Then they estimated their future pitching to the end of the patent, amounting to $228, which they paid and I gave them a paid-up license.

Bowman Bros., Marshaltown, Iowa, made a sworn report and settled at the regular rate for 500 kegs and 20 casks—the number sworn to. No license was granted in this case.

Jacobi, Coghlin & Co., Toledo, Ohio, reported under oath, September 25, 1880, that they had pitched 2,600 kegs, 30 casks holding less than 30 barrels, and 15 casks over 30 barrels, and that they would only need to pitch 300 more kegs and 30 more casks under 30 barrels and 15 more casks over 30 barrels during the life of the patent. They paid for all this at the regular rate and I gave them a paid-up license.

Phillip Schuerman, of Hancock, Mich., reported under oath, on the 14th day of September, 1880, that he had pitched 160 casks holding less than 30 barrels, He had pitched no kegs or casks holding more than 30 barrels, and he paid at the regular rate and agreed to pay at that rate until the end of the patent. After the patent expired he reported that he had pitched 22 more casks holding under 30 barrels, and he paid for them at the regular rate—$1 each—in accordance with this agreement.

Vinzing Horder, of Dowagiac, Mich., reported on the 24th day of September, 1880, that he had pitched only 400 kegs and no casks He paid at the usual rates and took a license and agreed to pay at the same rate up to the expiration of the patent. After the patent had expired he reported that he had not done any pitching since he took the license.

P. & J. Raquet, East Saginaw, Mich., before the Master on the accounting swore that they had only pitched 1,200 kegs and 21 casks holding less than 30 barrels. They then concluded to test the case no further, and paid at the regular rate.

John Wall, Monroe, Mich., reported before the Master that he had pitched 1,850 kegs, and he paid at the regular rate.

Schemm & Schoenheit, Saginaw City, Mich., reported that they had

pitched 100 kegs and 134 casks holding less than 30 barrels. They also paid at the regular rate.

Christopher Kern, of Port Huron, Mich., reported before the Master that he had pitched 100 kegs and 8 small casks, and paid at the regular rate.

John Schuster, of Buffalo, N. Y., made a sworn statement and settled at the regular rate per keg and cask, which, including court costs, amounted to $212. I have also made several other small settlements at the same rate per keg and cask." (Record 210-12).

These two methods—*lump* settlements for $100 a thousand barrels of beer brewed, and *keg and cask* settlements where the brewers could or would ascertain the actual number of kegs or casks pitched—represent the only ways in which Gottfried settled with brewers after the decision of December 1, 1879, when for "the *first* time the brewers *commenced* to recognize his rights." The question, therefore, arises whether either of these methods affords a royalty or license fee in the sense of that term which is applicable to defendant's case.

It is plain, under many decisions of this and the Circuit Courts, that the *lump* settlements, where Gottfried settled without reference to the number of kegs and casks pitched, are not a proper measure of damages. Such settlements afford no information as to the value of the invention per keg and cask. If evidence of *gross or lump* settlements alone had been offered by complainants he would have been limited to *nominal* damages. This Court would say, as said Judge Wallace in *Matthews* v. *Spangenberg* (14 Fed. Rep. 351):

"It is quite impossible from the proofs, to ascertain what was esti-

mated as the basis of royalty for future use, or as damages for previous use, what was allowed for costs, and what by way of compromise."

The keg and cask settlements were *invariably* for the *same amount* per keg and cask. There is no fluctuation or change. They are sufficient in number to constitute an established royalty if they are sufficient in other respects. They are not for large amounts but the amounts are *proportioned to the work done.* The amount of work done was stated under oath and there is nothing in the whole record to impeach the truth and honesty of the disclosures. They are at the same rate per keg and cask as allowed by his Honor Judge Woods, in these cases on the other evidence in the record.

But it is said they were *settlements*, that they were payments for a *past* use, that they were made when the parties had been *sued*, and that, therefore, they cannot be considered as establishing any royalty or license fee. These settlements are set out in the extract from Gottfried's evidenee above quoted, and while most of them are for the past not all of them are. Gottfried says:

"I had commenced a suit against every one on this except against Jung & Borchert; they bought a brewery in December, 1879, and they came voluntarily to have this pitch machine matter in a shape so that they would not infringe; that was the first that was settled—no, it was not the first, but still they came voluntarily and asked for the amount for which they could use the machine; all the rest have been sued." (Record 223).

Suits had been commenced against the others. But

what of that? No evidence has been offered to show that on that account they paid *more* than they should have paid. A man may be sued for his grocery bill before he pays. Because of suit commenced, will your Honors *presume*, in the absence of evidence, that on that account he paid *more* than was due? Of course not. You would presume, however, that he paid the amount due. In this case any argument drawn from the fact that most of the brewers paid after claim or suit must fall for the same reason, namely, that there is not a word of evidence to show that they paid too much *because* of the suit. Giving full weight, therefore, to these settlements and licenses, their number is ample. In *Burdell* v. *Denig*, (92 U. S., 720,) one or two licenses were held sufficient.

But they are objected to because some of them are settlemants for the past. We see no difference in *principle* whether a man eats his dinner and then pays for it, or pays for it and then eats it, In either case it is the price or value of the dinner he is paying. The object of proving the licenses is to show the *value* of the invention to those who need to use it. It is simply a means of fixing the the value. As Judge Wallace said in *Wooster* v. *Simonson*, (16 Fed. Rep., 680,) "an established license fee is competent and satisfactory evidence of the *value* of a patent right, because the price which it commands between those who sell and purchase it is the best criterion of its value." As a means of fixing value, therefore, it is wholly immaterial whether the brewers paid for the pitching before or after it was done. But in the case of *Emigh* v. *Baltimore & Ohio R. R.*, (6 Feb. Rep., 289,) Judges Bond and Morris

distinctly mention "settlements" for the past in determining the value of the invention.

Judge Woods, however, says in these cases that these payments cannot be considered as establishing a royalty or license fee that may be resorted to to measure the damages because they are payments for past use. He says:

"In so far as the Master has found that the proof showed an established royalty or license fee, within the meaning of *Seymour* v. *McCormick*, 16 How. 485, I think he erred. I am still of the opinion declared in *National Car Brake Shoe Co.* v. *Terre Haute Co.*, 19 Fed Rep. 514, and *Wescott* v. *Rude*, Id. 838, that evidence of settlements for infringements is not competent to show a license fee or royalty, and, upon the same principle, a license for the future given wholly or partially in consideration of a settlement for infringement is not admissable in evidence againt a stranger. There are other minor points on which I find it unnecessary to form an opinion. Like those stated they are eliminated from the case by the final position upon which the Master rests his conclusions."

Now let us stop a moment and take a review.

If we had simply proved the few sales of machines—about 20 out of 3,000 used—at *varying* prices, while the patentees were trying to *introduce* their invention, while the brewers *denied* their property rights under the patent and while they made no *apportionment* whatever in their prices as to manufacturers' profits, royalty, etc., the complainant would have been limited to nominal damages, because the fluctuating, varying prices at which the few straggling sales were made would not have constituted an *established* royalty or license fee.

If we had simply introduced the assignment from Gottfried to Holbeck in which Gottfried reserve a nominal royalty—a sort of pepper corn—of $10 a machine, when the Baltimore Company was organized in 1870, which was made after years of defiant and universal infringement had discouraged Gottfried, which was afterwards rescinded, and under which Gottfried *was never paid* his paper royalty for a single machine, the complaint would have failed under the decisions which hold that a rescinded license which has never been fulfilled affords no legal measure of damages.

If we had relied on the license which Gottfried gave to Holbeck, May 1, 1879, "as a part of the purchase money" for his interest in the patent, before Judge Dyer's decision sustaining it, in which he empowered him to sell machines *only* to brewers who had *not infringed* or who had *settled* for their infringement and required him to pay "the same amount he has been paying"—which Gottfried thought was ten or fifteen per cent. of the selling price of the machine, but was not certain as the matter was so trifling, and which he waved when Judge Dyer sustained the patent—the complainant could have invoked no decision to show that that private agreement between himself and his "old friend and co-patentee" would have been binding on infringers as a measure of damages.

If we had introduced evidence that, after Judge Dyer's decision, Gottfried had settled with brewers at the rate of about $100 for every 1,000 barrels of beer sold at the *time of the settlement* without any reference to the *amount of pitching* they had done on the machine and

that the rate of these *lump or gross* settlements was departed from where a number of brewers settled together or special circumstances required, the complainant would not have *thus* furnished evidence against *these* defendants *who were able to disclose the amount of work* done and he would have been precluded from any substantial recovery by those authorities which say that lump settlements are insufficient to measure damages.

If we had finally relied alone on the licenses and settlements *per keg and cask* testified to by Mr. Gottfried above, Judge Woods would have held, as he did, that such evidence was insufficient.

But if any of these transactions had been of a nature to afford "an established royalty or license fee," yet if it afforded no adequate recovery, if it failed to properly measure the damages, if it did not sufficiently compensate the patentee, if the Court could see that he had foolishly put too low a valuation on his property, he would, under the great case of *Seymour* v. *McCormick* (16 How. 485,) which is one of the leading cases on the question of damages, be permitted to prove the real and proper value of the property taken, but in that case his proof would have to be clear. The language of this Court in that case is that "if a a patentee claims anything above that amount (his license fee) he is bound to substantiate his claim by clear and distinct evidence." That is all. He is not bound like Prometheus to his rock. He *may recover more* than his established royalty or license fee, but when he comes into Court and says his royalty was too small, that it does not adequately measure the value of the invention, and

that is what a royalty is supposed to do, the Court will not say that he cannot be heard, but will simply inform him that he is "bound to substantiate his claim by clear and distinct evidence." This Court has often repeated this doctrine of common sense, as in *Birdsall* v. *Coolidge*, (93 U. S. 70), where it is said that "it is admitted in several cases that the circumstances may be such that the finding should be larger than the royalty." Judge Woods had the right theory of the law where he said in these cases in discussing these various matters: "While I am of opinion that these facts constitute competent evidence against the plaintiff in respect to the value of the invention, being in the nature of *admissions*, I do not agree with counsel for the defendants that the plaintiff is *concluded* thereby." Even, therefore, if any of Gottfried's sales of machines or settlements of infringements could have been relied on by him, as a measure of damages, he was not prevented from proving a higher rate by "clear and distinct evidence."

But taking a comprehensive view of the whole case and anticipating the view the Courts would take of Gottfried's sales and settlements, but one course to prove damages remained open—that sanctioned by this Court in *Suffolk Company* v. *Hayden* (3 Wall. 320):

"There being no established patent or license fee in the case in order to get at a fair measure of damages, or even an approximation to it, general evidence must necessarily be resorted to. And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of

the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise of a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner, by the piracy."

William G. Seib, foreman for the Seipp Brewing Company, of Chicago, one of the three or four largest brewers in the United States, who had had a great many year's experience in pitching by the old methods and in the use of the Gottfried-Holbeck process, testified that he had pitched in ordinary business, with six men, 800 kegs in one day, while by the old method he would have done well to have pitched 200; that there is a great saving of pitch by the use of the invention; that kegs and casks lasts at least three times longer; that by the old method experienced men must be employed, while by the complainant's process common hands could do the work; that the Gottfried-Holbeck process alone is worth to men who use it in the ordinary way, in money per keg and cask, over the old way of pitching "from 30 to 35 cents a keg a year for two pitchings, and for a cask that is about four or five dollers;" and that he "would prefer a stationary pipe to a movable one." (Record 257-59).

Anton Schuerle, a retired brewer of means, testified that he had had many years' experience pitching by the old way and by the Gottfried-Holbeck process; that with the process he could pitch, with six men. about fifty to sixty casks a day, while by hand the same men could pitch from twelve to eighteen, and from eight to nine hundred kegs a day, while the same men could only pitch

from about one hundred and fifty to two hundred in the old way; that kegs and casks last about three times longer when pitched by the process than by the old method; that it takes much less pitch in the new way, that ordinary hands can pitch with complainant's process, while experienced men and coopers were required in the old way; that the Gottfried-Holbeck process is worth "about fifteen cents on a keg for every pitching and from three to four dollars on a cask;" that there is no difference whether the pipe from the machine be movable or stationary; and the pitching pan is worth about one dollar more a cask than hand pitching. (Record 261-63).

Clements Uhleman, a brewer and malster, who testified to having had many years' experience in pitching by the old way and by complainant's process, says that he used to be able to pitch "with six men from one hundred and eighty to two hundred and twenty-five kegs in a day by hard working, and by machine from seven hundred and fifty to nine hundred with the same number of men in a day;" that "when you pitched by hand you used three kegs where you used by machine one;" that "the wear and tear is three times as much by hand pitching as by machine pitching;" that common men about the brewery could be used by machine, "but by hand pitching you need men who have learned the trade—coopers and brewers;" that he has used the pitching pan in pitching casks; that the Gottfried-Holbeck process is "worth on labor and wearing about fifteen to twenty cents on a keg for one pitching and for a cask about three dollars a year"

over the old way of pitching " or use of the pitching pan." (Record 270-72).

Edward Thorman, a cooper, testified that he had had large experience in both ways of pitching; that by hand pitching "we had to take the heads out of the kegs and the puncheons, and then we broke the heads and broke the hoops;" that with four or six hands we pitched a hundred and fifty or a hundred and eighty a day and by machine we pitched from eight hundred to a thousand with the same number of men;" that kegs and casks last "about three times longer when pitched by machine than when pitched by hand;" that in hand pitching "good coopers" are required, while by machine "common laboring men" can do the work; that the Gottfried and Holbeck invention alone is worth to any brewer, who uses it in the regular ordinary and proper way, "about fifteen to twenty cents a keg of one pitching, and five dollars for casks of one pitching;" and that it is all the same whether the pipe from the furnace to the keg be removable or stationary. (Record 276-77).

Emil Welke, a brewer in the employ of Mr. Gottfried (Record 286-87); William Roessler, a brewer in the employ of Mr. Gottfried (Record 297-98); August Olinger, a brewer with the Keeley Brewing Company, of Chicago, (Record 299-301); William Koele, a brewer in the employ of Mr. Gottfried. (Record 305; Joseph Meier, a cooper, (Record 306-8); Casimer Thienger. a brewer, (Record 310-12); Ferdinand Steiner, a brewer in the em-

ploy of Mr. Gottfried, (Record 314-15); Frank Walther, a brewer and cooper, (Record 320-22), and other witnesses testified to the same effect.

The testimony of all these parties, who are wholly disinterested, if we accept those in the employ of Mr. Gottfried, explains the grounds on which their opinions are based so fully and satisfactorily that we trust the Court will refer to their evidence in full in the record if it should be deemed important.

The defendants, on the other hand, produce a number of witnesses who deny that any advantage results from the use of the invention, and who go so far as to say that they prefer the old way of pitching. If we examine their relations to this litigation we shall find scarcely one that is not in some way interested in defeating the patent.

An analysis shows the following as to defendant's witnesses: John Hauck was a defendant at Cincinnati; Christian Moerlein, a defendant; Henry Schmidt, a defendant; Henry Muhlhauser, a defendant; Emil Schmidt, in the employ of a defendant; C. W. Boss, in the employ af a defendant; Louis Herancourt, in the employ of a defendant; William Gerst, in the employ of a defendant; Jacob Frech, in the employ of a defendant; Gottlieb Schwarz, in the employ of a defendant; J. U. F. Windisch, in the employ of a defendant; Christopher Liebel, in the employ of a defendant; Henry Scharf, in the employ of a defendant; John Brenner, former partner of a defendant.

It would seem that the defendants in the Cincinnati cases, who took this evidence, had searched their cellars

and scoured their yards for witnesses to swear that the Gottfried-Holbeck process was an injury instead of an advantage! But opposed to their theory that there is no utility in the use of the invention stands the uncontradicted fact that the parties who gave this testimony had been constantly using it for years to the entire discontinuance of the old method. Some of the defendants, as, for instance, John Hauck, who testified that the invention was of no utility, after using it for years, admitted that he was in the habit of putting in iron bushings, costing seven or eight cents apiece, to prevent the bungs from "burning out and the holes getting oval," and that if he did *not use* the machine he would not use the bung bushings, (Record 355) This was the cost of the bushes besides an expense of some two cents to put them in. They were thus going to the expense of some ten cents per keg to enable them to use a machine that was an injury!

The defendant's witnesses, who were either defending suits against themselves or in the employ of those who were, evidently found the use of the invention beneficial or they would have discontinued it. They may however, have used it ignorantly or imperfectly so that they did not bring out its full capabilities. We think this was probably the fact. If they did not fully melt the pitch in the keg, so that it would run like water, and, in the language of the patent, "permeate every pore and interstice in its inside surface," this simply shows that they did not practice the invention as intelligently and effectively as they should. But this is not the complainant's fault or chargeable to him. It cannot be shown in diminution of damages.

As stated by this Court in *Marsh* v. *Seymour*, (97 U. S., 360).

"Damages of a compensatory character may be allowed to a complaint in an equity suit, where it appears that the business of the infringer was so improvidently conducted that it did not yield any substantial profits."

Where the defendants did not, through an ignorant and defective use of the invention, bring out its capabilities and enlarge its advantages as fully as the complainant and his witnesses, its imperfect operation is to be blamed to themselves and not to the invention in assessing the damages.

Although complainants have waived profits, technically, still it is proper to consider the *general* advantages derived from using the invention, as stated by this Court in *Suffolk Company* v. *Hayden*. This is particularly so where there may be a doubt as to the existence of an established royalty or license fee. Of course, nothing but damages, technically, can be recovered in actions at law, but in the words of Justice Strong, in *Locomotive Engine Safety Truck Company* v. *Pennsylvania Railroad Company*, (5 Banning & A., 518), "there is no conceivable reason why the damamages sustained by a patentee from the infringement of his patent are not the same, whether he proceeds at law or in equity." The present inquiry into damages is the same as if these were actions at law. It will, therefore, be important to inquire how the Courts generally instruct their juries on this question, namely how far the general benefits or advantages derived from the use of an invention should be considered in estimat-

ing the damages. It will be found that the doctrine of *Suffolk Company* v. *Hayden* has been widely and generally followed on the Circuit.

In *Case* v. *Brown* (2 Fish., 275). Judge Drummond, charging the jury said:

"The only remaining question is as to the damages which the plaintiff may have sustained if the defendant has infringed. And the Court thinks that the clear and simple rule to guide the jury in this case is, if they shall believe from the evidence the defendant has infringed the patent of the plaintiff, to *ascertain what pecuniary profits or benefits the defendant has derived* from the use of the invention of the plaintiff."

In *Latta* v. *Shawk* (1 Fish., 472), Judge Leavitt, in charging the jury, said:

"If you find that the defendant has infringed it is well for you to say to what damages the plaintiff is entitled. It is a rule, well settled, that the damages in such a case as the present, will be *the amount of profits that the defendant has made.*"

In *Wintermute* v. *Redington* (1 Fisher, 251), Judge Wilson, charging the judge, said:

"If you find for the plaintiff, you will assess and return as your verdict, the actual damages he has sustained by the infringement, whether such infringement was an intentional violation of the patent or not; and in estimating the actual damages, the rule is to give the *value of such use* during the term of the illegal user."

In *Carter* v. *Baker*, (4 Fisher, 419), Judge Sawyer, said in charging the jury:

"*The profits made by the defendants* in selling the machines, are proper to be given, *as a part of the damages.*"

In *Pitts* v. *Hall* (Fisher's Pat. Rep., 450), Judge Nelson, charging the jury, said:

"One mode of arriving at the actual damages is to ascertain the profits which the plaintiff derives. . . . *Another mode*, and the one resorted to partially in this case, *is to ascertain the profits which the party infringing has derived* from the use of the invention."

In *Bell* v. *Daniels* (1 Fisher, 379, Judge Leavitt said:

"If the jury believe that none of the foregoing defenses are sustained, and that the defendants have infringed, they will then inquire what damages the plaintiff shall receive. *This is wholly within the discretion of the jury*, though no claim is made in the present case for anything beyond compensatory damages. *There is no unbending or unyielding rule of damages*, though that usually recognize as the true rule has been to give to the plaintiff *as damages the amount of profits which the defendants have derived* from the *use* of the plaintiff's improvement. . . As before remarked, the whole subject of damages is with them, and they will give such an amount as in their judgement seems proper under the evidence. There are no doubt cases in which the license fee *may be* a criterion, but there are few instances, in my judgment, in which, where his invention is pirated, the patentee ought to be *concluded* by a former offer to sell."

In *Cowing* v. *Rumsey* (4 Fisher, 378), Judge Woodruff said:

"In such an action (one at law) it is precisely what is lost to the plaintiff, and not what the defendant has gained, which is the legal measure of the damages to be awarded. Under this rule, *it may often be entirely proper to prove the profits of the ordinary use* of the invention."

In *Whittmore* v. *Cutter* (1 Robb., 45), Justice Storey said:

"If the jury are of the opinion that an user of the machine is actually proved in this case, *the rule of damages should be the value of the use of such a machine*, during the time of the illegal user.

In *Philp* v. *Nock* (17 Wall., 462), the Supreme Court, through Justice Swayne, say:

"Where the plaintiff has sought his profit in the form of a royalty paid by his licensees, *and there are no peculiar circumstances in the case*, the amount to be recovered will be regulated by that standard. If that test cannot be applied he will be entitled to an amount which will compensate him for the injury to which he has been subjected by the

piracy. In arriving at their conclusion, *the profit made by the defendant* and that lost by the plaintiff are among the elements which the jury may consider."

In *Parker* v. *Hulme* (1 Fisher, 56), Judge Kane, charging the jury, said:

"The damages to be assessed should be compensatory. The criterion is indemnity. You may take into consideration the loss sustained by the plaintiff, *as you may likewise, the profits made by the defendants.* In estimating the loss to the plaintiff, from the defendant's authorized use of the machine, the price of a license is sometimes a fair guide, but not always. . . . Your verdict may be founded upon a *full and liberal* measure of the plaintiff's actual damages."

In the above cases the doctine is fully recognized that the defendant's general benefits from the use of the invention may be considered in assessing the damages; and in contemplation of law the defendants *have* made what, by reasonable skill, they *ought* to have made.

In *Campbell* v. *Barclay*, (5 Bissell, 180), Judge Blodgett, in charging the jury, said:

"Nor is the amount of damages to be measured solely by the profits which the defendant realized by the use of the patent, because he may have conducted his business is so unsuccessful a manner as to have made no profits, notwithstanding the use of the patent. In other words, he might have lost money in the business whether he used the patented tool or used the old-fashioned implement. The true question is, what advantage, if any, did the defendant obtain, *or might he by skill have obtained*, by using this patented device over the use of the old device or process to obtain the same end, and what does the evidence show such advantage to amount to in money, as nearly as you can reduce the same to money."

In *Burdel* v. *Denig*, (92 U. S.,) 719, the Supreme say:

"In cases where profits are the proper measure, it is the profits which the infringer makes, *or ought to make*, which govern."

The Court then say that licenses are usually the proper measure of damages in actions at law, and proceeds:

"No doubt in the absence of satisfactory evidence of either class in the form to which it is most appropriate, the other may be resorted to as one of the elements on which the damages or compensation may be ascertained."

The above authorities show that the doctrine of *Suffolk Company* v. *Hayden* is one that has been widely recognized and applied on the Circuit. Unless there is some plain and overpowering reason why it should not be applied in this case, the decree below must be affirmed.

If this Court should refuse to affirm the decree below, it must be solely because of the early sales of machines, or because of the paper royalty when Gottfried assigned his interest in the patent to Holbeck as preliminary to the organization of the Baltimore Company, or because he gave a license back to Holbeck "as a part of the purchase price" when Holbeck assigned him his interest in the patent, May 1, 1879.

In the absence of all these matters there could be no reason urged why Gottfried should not, under *Suffolk Company* v. *Hayden*, recover as damages the value of the use of the invention. Had he and Holbeck after their patent was issued locked it in their safe and *done nothing* by way of sales or otherwise to introduce the invention to the brewing public, they would clearly be entitled to recover on the theory on which the Court below has

allowed them damages. Can it be possible that a party who has held his patent without taking a single step to introduce it to the public, or to benefit the public by manufacturing and selling his invention, shall stand in this court in a *better* position than when he endeavored to introduce the invention and to build up a manufacturing business under this patent? Is a party who has endeavored in good faith to confer the benefits of his invention on the public, and in that endeavor has made sales of a few machines, to occupy a *worse* position than the one who has never attempted in any way to benefit the world by the actual introduction of his invention? Is one who has advertised his invention, exhibited it at brewers' conventions, and sold a few machines, to be *punished* for his benevolent endeavors? And yet if Gottfried is to be bound down to a price represented by his early sales, he will be subjected to a deprivation which would not be visited on one who had done *nothing* to confer an actual knowledge of his patented invention on the brewing trade.

Complainant's position may be likened to that of a man who, instead of a patent for an invention, held a patent for 3,000 acres of land, good for the timber alone, and the public had insisted that, by reason of squatter sovreignty, prior occupancy, or some other reason, the timber belonged to them and that the patent was invalid. Suppose that, under these circumstances, while his rights were disregarded and denied, he has sold fifteen or twenty acres of the timber, or "stumpage," as it is called in the logging country, to as many individuals, for, say ten dol-

lars an acre—would he, after spending years of time and thousands of dollars in vindicating his patent and establishing his title in the courts, be limited, in an action for damages againt one who had cut and used his timber without right, to ten dollars per acre, notwithstanding his proof was clear and satisfactory that the timber was worth one hundred or one thousand dollars an acre? In such a case, would the defendant be permitted to insist that the ten dollars an acre was the measure of damages irrespective of the value of the timber he had cut and used—especially while he at the same time admitted that the ten dollars per acre was received while the patent was thought to be invalid? Particularly would he be allowed to do this when he could not claim that the acceptance by the patentee of the ten dollars per acre had misled him, or that he had ever known it, or that he had been injured by the sales to others at that rate? In such a case, this court would certainly assess as damages the full value of the timber. The courts all say that patent property is to be treated like any other property. Why not, then, assess the full valueof this invention to the extent used?

In addition to all this, we may further urge that Gottfried is entitled on the theory adopted by the Court below unless his acts have estopped him from claiming at a greater rate than he received from sales of machines. But none of his acts relied upon by the defendants can be considered as an estopped because it is not shown that the defendants ever relied on them or were in any way misled or injured by them. In fact, as far as the record shows, they never even heard of them until the complain-

ant himself gave them information by his deposition in these suits. The law is too familiar to require the citation of authorities, that a party claiming an estoppel *in pais* must show that he acted with knowledge of and in reliance on the facts or circumstances claimed to raise the estoppel. When viewed in this light, Gottfried's few sales of machines cannct be considered as having put the defendants in any worse position than they would have been in had such sales never occurred.

MISCELLANEOUS MATTERS.

It was argued in the Court below that Gottfried hap not exercised the diligence he should in prosecuting infringers. When rightly understood there is no foundation for this claim. It is based on the fact that Mr. Gottfried says that he learned of an infringing machine about 1867 or 1868 while he did not commence litigation until 1876. But it must be remembered that from 1870 until 1876 the title of the patent in suit was in the Baltimore Company and out of Gottfried's name and control. It was only recovered in 1876, so that suits could be commenced. We will quote the testimony on this point:

"5. Q. When did you first commence suits under your patent? A. It was in the fall of 1876.

"6. Q. Where? A. In the City of New York and in the State of New Jersey.

"7. Q. Why did you not commence suits sooner? A. The title of the patent was not in such a shape that I could commence suits, because I assigned my part over to Holbeck when he started the Baltimore Pitching Machine Company, and that was in 1870, and I did not get right possession of it until the summer of 1876, and after that we engaged

John H. B. Latrobe, of Baltimore, a patent attorney, and he commenced suits—I don't know how many, I guess about twenty or twenty-five—down East at several places.

"8. Q. When did you commence suits in Chicago? A. A year after that, in 1877. They went on so slow down East, and I lost patience and came to Messrs. Banning & Banning, and we commenced suits here in Chicago, in 1877.

"9. Q. When you say you did not get possession of your patent whom do you mean—yourself or yourself and Holbeck? A. Myself—well, Holbeck always had a part of it; he always had a share, but I don't know how much of the old patent he had when he was in the Baltimore Pitching Machine Company; but I didn't have any part in it at that time.

"10. Q. Who had the controlling interest while the title was in the the Baltimor Pitching Machine Company—Mr. Holbeck or the parties East? A. The parties East.

"11. Q. Did they have that controlling interest until the patent was reassigned by the company or not? A. They had the control of it—yes, sir—until it was reassigned to me.

"12. Q. Did the parties controlling the Baltimore Pitching Machine Company carry out the agreement and understanding on which the company was organized and under which the patent was assigned or not? A. No; they did not.

"13. Q. State whether they required you to pay money before you could get the patent back into your possession or not. A. Not that I recollect.

"14. Q. I mean you and Holbeck. A. As I remember, they asked Holbeck for money.

15. Q. Did you not pay a large amount of money to Mr. Stromberg to get the title back? A. Yes, we did; Stromberg owned a part—as I understand, one-third of Holbeck's half interest—of the patent, and to make title good we paid him, I suppose, five thousand dollars."

Under these circumstances, it would indeed be harsh to hold that Mr. Gottfried should have been more diligent in the commencement of suits than he was. After Mr. Latrobe began the suits in New York and New Jersey in

1876, the litigation was carried on with the utmost diligence possible. But it hardly lies in the mouths of the defendants to complain, because, when the Crescent Brewing Company was organized, April 30, 1879, as stated by Mr. Vail (Record 43), the suit against Gaff & Langtree, the predecessors of the Crescent Brewing Company, had already been commenced as explained in the opening paragraphs of our brief. Langtree was the treasurer and general manager of the Company. In the suit against Gaff and himself, begun February 1, 1879, he had full knowledge of the patent and of the litigation. Yet the Company, with this knowledge in their officers, proceeded deliberately to infringe upon the rights of the complainant.

It was said in the Court below that Gottfried and Holbeck sold all the machines they could, or, to quote from defendant's brief in the Court below, "they put the machines on the market without restriction, advertising them generally and selling to all who would buy." Suppose they did; as before shown, they were able to sell only about twenty machines in the first thirteen years of the life of the patent. The fact that they advertised them extensively and yet with so meagre results shows unmistakably the temper in which the brewing public received their advertisement and regarded their claims. A number of other like suggestions were urged in the Court below. But if this Court accepts the theory on which this accounting has been conducted, as the Court below did, they cannot affect the result or cause the decree to be reversed, because they proceed upon a wholly different theory.

INFRINGEMENT.

The question of infringement is one that can scarcely be considered as in dispute, but if the Court should desire to read a description of the defendant's machine, it will be found in the deposition of Vail in his account of the second machines used by Gaff and Langtree, and afterwards by the Crescent Brewing Company (Record 44).

In conclusion, we submit and insist that the Gottfried-Holbeck patent is valid, that the theory on which the accounting was conducted was applicable to this case, and that the evidence fully establishes the reasonableness of the amounts for which decrees were entered in the Court below.

Respectfully submitted,

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